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Volume 75 — Number 1 — January 1982

JOURNAL Oklahoma State Medical Association



DRAMATIC NEW CLINICAL PROOF*

In the treatment of impetigo–

- **100% cure rate with Tegopen®** (cloxacillin sodium)
- **only a 60% cure rate with penicillin V-K**



As seen on admission



After one week of penicillin V-K therapy



Two weeks after initiation of TEGOPEN therapy

Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. *No* treatment failures occurred with Tegopen.

*Data on file, Bristol Laboratories.

Brief Summary of Prescribing Information

TEGOPEN®
(cloxacillin sodium)
Capsules and Oral Solution

For complete information, consult Official Package Circular. (12) 9/11/75

INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

		Given Tegopen® *(cloxacillin sodium)*	Given *penicillin V-K*
Staphylococcus aureus	(78 patients)	39	39
Returned to clinic at one week		29†	38†
Treatment failure at one week		0	18 (47.4%)
Staphylococcus aureus and *Streptococcus pyogenes*	(9 patients)	4	5
Returned to clinic at one week		4	5
Treatment failure at one week		0	2 (40%)
No initial bacterial growth	(14 patients)	9	5
All 14 healed, regardless of which antibiotic was administered.			
Beta-hemolytic *Streptococcus*	(1 patient)	0	1
TOTALS:	**102 patients**	**52 patients**	**50 patients**

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus*, 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes*, and 1% beta-hemolytic *Streptococcus*.‡
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.
- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

‡The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

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TEGOPEN®
(cloxacillin sodium)

-effective therapy for staph infections of the skin and skin structures

WARNING:
Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS:
The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS:
Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE:
Adults: 250 mg. q.6h.

Children: 50 mg./Kg./day in equally divided doses q.6h. Children weighing more than 20 Kg should be given the adult dose. Administer on empty stomach for maximum absorption.

N.B. INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

SUPPLIED:
Capsules—250 mg. in bottles of 100. 500 mg. in bottles of 100.
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

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Bristol Laboratories
Division of Bristol-Myers Company
Syracuse, New York 13201

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TWO TYPES OF INSURANCE PROMISES:

1. A claims-made policy will protect your practice for only one year.

2. PLICO's occurrence policy will outlast your professional career!

Beware of the so called *claims-made* professional liability policy. By its nature, the coverage is promised for only one year. An *occurrence* policy — like PLICO's — has lasting value you can count on.

For example, a *claims-made* company will defend you and pay claims only if they are reported while the policy is in force — a year-to-year form of insurance *insecurity.* And what if you quit the company or it quits you? Then you have to breathe new life into the insuring agreement by paying *one, two or three times the annual premium* just to have the privilege of reporting claims which may come to light only after the policy has expired. Another bad feature of "claims-made" insurance is that some physicians may be beguiled into buying it through a deceptively-priced "introductory" premium, only to discover that they are *automatically* programmed for rate increases over the next four years.

By contrast, the *occurrence* policy of PLICO is on your case for all professional services you perform during the policy period — regardless of when the claims are known and reported! There are no "automatic" rate increases at PLICO. True Oklahoma loss experience always governs its cost.

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Charity Returns

One of the subtle yet significant characteristics of all government programs designed to provide financial assistance to the needy in our society is the inherent inhibition of private and personal charity which follows each of them. This in turn nurtures the lack of caring and the absence of concern which is impoverishing the soul and choking the spirit of our people. It is entirely natural to turn away from problems which have been solved; to ignore a need that is no longer ours to satisfy; to neglect a responsibility which has been assumed by others.

Instead of enjoying the fulfillment which comes from giving, we resent the burden of taxes and the inefficient bureaucracy which are the hallmarks of government subsidization. Instead of a personal expression of gratitude, we are rewarded with the onerous presence of the tax collector and his sometimes Gestapo-like tactics. Instead of being encouraged to give, we are encouraged to keep . . . and to find ways to justify our selfishness.

Our elders are stashed away in nursing homes. And our youngsters pay part of the spiritual price for their isolation. Our hungry are nourished by bits of paper doled out by government employees. Our sick are treated by fiat which, in fact, amounts to a mandated contribution from hospitals, physicians and all other professionals involved in providing that care. Our disabled no longer look to us for assistance; they lobby for laws which will punish us if we ignore their impediments. Charitable contributions are solicited as tax benefits and they are viewed with suspicion, if not scorn, by the bureaucracy which covets the domination of all human needs. Beneficiaries of tax-supported assistance programs are told not to look upon the provision as a gift but are encouraged to believe it is a right; an entitlement by birth. A contribution, personally delivered, invariably evokes some expression of gratitude. A similar contribution, impersonally delivered, rarely if ever evokes any such expression.

With the advent of a new political philosophy in our nation's leadership we are being encouraged to resume the roles of personal and private providers. We are being asked to assume, once again, the responsibilities of caring for our elders, our hungry and our sick. In essence, we are being asked to become responsive to the human needs in our own communities; to become caring, giving human beings once again. Beyond the dollar-saving sense of such an undertaking . . . money sent to Washington shrinks more than fifty percent . . . it also promises to reincarnate the very spirit of America. Such a program, broadly supported, will rejuvenate our souls which have been sickened with the frustrations of inadequate giving and extravagant selfishness.

If such an effort succeeds, perhaps we will witness the rebirth of charity and become endowed, once again, with the priceless rewards of giving. We need them. Our nation needs them. *MRJ*

New Year, New Benefits, New Programs



This month the association introduces PLICO Health, a new and welcome benefit for its members. PLICO Health is a comprehensive major medical and hospital insurance program for physicians, their families, their employees and their employees' families. At its November meeting, the OSMA Board of Trustees authorized PLICO to design and offer the policy after reviewing the results of an extensive survey that showed broad support for the program.

At one time or another, we have all experienced the capricious nature of the commercial insurance industry; now we have the opportunity to design a policy the way it should be. With actual loss experience used to determine premiums, we can avoid haggling about what premiums should or shouldn't be.

Just as our malpractice insurance program needed your support to be successful, so does the new PLICO Health program. When you receive your information on PLICO Health, read it carefully and make your decision promptly — I know you will be as enthused about it as I am.

My enthusiasm for new OSMA programs doesn't stop there. It extends to the imaginative and thought-provoking scientific program planned for the 1982 Annual Meeting. The theme of the program is "The Great Debates: Controversies in Medicine 1982." The line-up of topics is impressive — drug vs. electroconvulsive treatment for depession, use and abuse of the CAT, surgical vs. medical management of morbid obesity, and the pregnant teenager, just to name a few. I predict this will be one of the most exciting and "controversial" annual meetings to date. Your advance program and hotel reservation card are in the mail. Don't pass up the opportunity to participate.

This new year brings more challenges and opportunities than most, in areas as diverse as international policy, domestic spending, social injustice, environmental policy, and medical and scientific research. Working through and with our association, we can make our voices heard and exert a positive influence on the course of human events. Our time and efforts are valuable commodities; let's use them to make 1982 a year of significant accomplishments.



On American Nostrum Making and Quackery

BRYAN E. BOATMAN, BS in Pharmacy

The gullibility of the American public to the lures of nostrum hawkers and patent medicine promoters before the Pure Food and Drugs Act of 1906 makes a dramatic story.

The history of proprietary medicines in America spans from the early 18th century appearance of patented brands imported from England to the early 20th century enactment of national legislation intended, in part, to restrain abuses in the medicine industry. Native nostrum production began during the Revolutionary generation, expanded rapidly during the years following Independence, received a new impetus from the Civil War, and reached abounding proportions in the late 19th century. As medicine became more scientific, the anti-nostrum movement developed a sound base. The critique of patent medicine quackery became significant as part of the humanitarian crusade of the Jacksonian democracy. During the Progressive Period, journalists and civil servants added their support to physicians and pharmacists and created a sound public opinion in behalf of a regulatory law.

Many promoters of nostrums were sincere and kindly men and not dastardly knaves, though their work might be hazardous to their customers. However, it was difficult to tell the good from the bad. Also, very few patent medicine makers became millionaires, whether their natures were good or bad. But, most of these manufacturers hoped to make big bucks.

The "why" of quackery is a question that is still being debated today. One point that is very peculiar is that the rise of scientific medicine and the boom in unrestrained nostrum making and selling coincide. Perhaps the answer lies in the complex mystery of human motivation. Whatever the cause, quackery was important in the early years of medicine because through it vast numbers of people sought to improve or restore their health, thus making medical quackery an important theme in American social and intellectual history. American patent medicine history began in Britain. Its founders were certain ingenious Englishmen who combined medical tradition and promotional enthusiasm at a time when regular medicines left much to be desired. In the 18th century, almost simultaneously it seemed, there were many English patents granted. For example, there was Richard Stoughton's Elixir in 1712, Dr Bateman's Pectoral Drops in 1726,

This paper was prepared in partial fulfillment of the requirements for the History of Medicine Course in the College of Pharmacy, taught by R. Palmer Howard, MD

Michael and Thomas Bretton's Oyl extracted from a "Flinty Rock for the Cure of Rheumatick," and John Hooper's "Female Pills" patented in the 18th century.[1]

Medication in the 17th and 18th centuries was haphazard, the majority of remedies being based on speculative theory or presumed empirical experiences. No common person with an urge to suggest a new medicine felt any legal or moral restraint. Besides this therapeutic tolerance, there were other aspects of the medical community which encouraged the would-be medicine maker. The antiquated practitioners who belonged to the distinguished London College of Physicians held an age-old prejudice that a member of a profession should not demean himself by working with his hands. Therefore, surgery and experimenting in the laboratory were frowned upon. The masses had to look elsewhere for treatment. They found this help at the hands of surgeons and apothecaries, not yet fully reputable but thought well of because of the great need. They also found the help at the hands of well-meaning empirics and unscrupulous quacks.

There probably was not a time in history where nostrum promotion was more brazen than in 18th century England. Therapeutic claims were the epitome of extravagance. Rivalries between medicine makers became very intense. Name-stealing and patent-jumping became the misfortune of every successful proprietor. In one instance, an enterprising woman marketed Scots Pills in boxes sealed with black wax bearing a rampant lion, three mallets flying, and the bust of a Dr Anderson. A male competitor sealed his boxes in red wax with his coat of arms and a motto reading "Remember you must die."[2]

In America, medicines entered the medical scene different from that of England. Class and professional distinctions were much less important. The medical practitioner was physician, surgeon, apothecary, and even midwife at times. The majority of the doctors received their medical training as apprentices rather than through a university. This led to lax standards. This situation put emphasis on practical matters rather than theory, and colonial doctors largely avoided the futile arguments over conceptual medical systems that involved British physicians. Therefore, there was a big rise in empiricism; whoever wanted to make a medicine could, whether shoemakers, weavers, or almanac-makers; it made no difference. This aroused the ire of many apprentice-trained physicians who complained loudly about the "Quacks," but their arguments were largely overlooked and their efforts to control proved futile.

The people in 18th century America and England were alike: they both possessed eagerness in respect to medical remedies. They dosed themselves with galenicals and chemicals, and swallowed complicated concoctions containing disgusting ingredients, in their efforts to drive away the malady that attacked them. At this time, it was the general agreement that specific remedies for illness lay in the region where the ailments flourished. This belief prompted the searching of American fields and forests for curative plants and directed attention to the healing arts of the Indians.

Therefore, in the mid-18th century, a great variety of patent medicines containing these natural sources spread throughout the colonies with the promise that they would "cure all that ails you." Often these medicines contained nothing truly useful to the health of the patient, or, on the other hand, they contained chemicals that might even be harmful to the sick patient. The promotions of the medicines were helped along by British-printed broadsides and pamphlets that told of all the wonderful things the concoction they were advertising could do. Many of these concoctions proved to be quite useful in helping remedy some ailments. For example, Turlington's Drops was found to be compound benzoin tincture which was good for several different ailments.[3] However, for every one useful medicine, there were many more useless ones. The rise of the quack doctor and healer truly got its real beginnings in the 18th century at a time when medical wonders were being discovered for the first time and people were the most gullible.

In the post-Revolutionary period, America was swept with a horde of patent medicines that became very popular but were for the most part worthless. The first American-made product in the annals of quackery that provoked a national mania was the metallic tractors of Elisha Perkins. A Connecticut physician, Perkins held a view that metals possessed an influence on the body which was not fully understood but which was based upon the fact that muscles contracted when touched with a metal object. The result of this was the invention of a small pair of metal instruments called tractors.[4] These tractors, ac-

cording to Perkins, could cure a host of diseases by the mere touching of the diseased part of the body with the instruments. The tractors were an instant success and their use spread rapidly across America as well as England. A son Benjamin Perkins became a very rich man from the proceeds of the sales of metallic tractors. However, the popular belief in the secret and exclusive efficacy of the patented metallic points soon vanished and the use of the tractors disappeared, but the hopefulness with which thousands of ailing people had greeted them lived on.[5]

In the period between the Revolutionary War and the Civil War, there was a blossoming of the "natural medications" made from the extracts of plants and chemicals and rolled into pills or put into solutions. Among these many medical concoctions were the vermifuges. The pioneer of this type of medication was a man named Thomas Dyott. He made and patented pills that were guaranteed to be non-irritating to the patient as well as a reliable biliary medication. The system of heroic medication was the major form of treatment at this time and many Americans were eager for a less rugged regimen. Therefore, a mild and pleasant mode of treatment was a stock appeal in nostrum advertising. In fact, it seemed that the requirements for the success of any patent medicine was for its maker to attack the brutal therapy of the heroic physicians. Dyott's pills were guaranteed to be non-mercurial in their effectiveness against a certain disease. Dyott made very much money selling his biliary pills, but for every one successful medicine maker such as Thomas Dyott, there were hundreds of others that did not achieve that kind of success. What these vermifugers did accomplish was the planting of the seeds of quackery. The market was flooded with pulmonic syrups and pectoral lozenges with the warning that if a person did not partake of the fabulous nostrum, their days were numbered.[6]

The success of the patent medicines in this period was due to several factors. One was the readiness of the common man to believe almost anything that was put in print. If a nostrum-maker provided a list of ailments that his medication would cure, then the customer would be likely to believe the claims until the moment he died of the disease the nostrum was supposed to be healing. Secondly, the nostrum-maker was a very persuasive person. He could present his product in such an amazing and believable way, that he would have the public believing that his product could cure all ills. Lastly, one of the biggest reasons for the success of the many nostrums was the lack of governmental regulations against quackery and false claims. A nostrum-maker could practically make, patent, produce, and sell almost anything he wanted to without the close scrutiny of government, which later realized the harm that many of these nostrums were actually doing to the health of the nation, but not until the quacks and nostrum-makers had a firm hold on the unwary customer.

Advertising played a major role in the advancement of the popularity of the many nostrums on the market in the early-to-mid-19th century. Pamphlets, broadsides, and brochures were printed and spread throughout the nation. Newspapers also played a major role in the spread of the popularity of the various medications. Nostrum-makers would take out huge ads or many small ads in the same newspaper and lavish the customer with tales of unheard-of-miracles that their product would perform. Or, the nostrum-maker would put in his ad an ominous warning of ill health unless his product was taken religiously. One such warning was published in *Harper's Monthly* in 1856. It said:

> We are fast becoming . . . a nation of invalids. Foreigners already effect to see in us a degenerate offspring of a nobler race, an uncomfortable dyspeptic expression, and . . . an uneasy spasmodic motion, and a general ghost-like charnel-house aspect, serve to make up a type of the species Yankee.[7]

Regardless of how lavish the advertisements, the newspapers printed them because they were a big source of revenue. The publishers therefore adopted a "caveat emptor" alibi for advertising. It was not infrequently employed when the press was attacked for the scandalous nature of some of the copy it accepted for pay. Also, any competitor was free to advertise, pointing out the weaknesses of rival remedies. The irony of this was that the ad criticizing another product might be adjacent to the big advertisement

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Bryan E. Boatman, BS, was graduated from the University of Oklahoma College of Pharmacy in 1981. He is a member of the American Society of Consultant Pharmacists.

for the concoction it was criticizing. Occasionally a paper would carry an article that was very critical of some nostrum, proclaiming it worthless and its maker a quack, but would also carry an advertisement of a product that was just as questionable in therapeutic efficacy.

The Civil War brought on another boom in nostrum-making as well as their lavish advertisements. During this period of American history it seemed that practically all the products and advertisements were aimed at the war and the soldiers fighting in the war. It did not matter which side one supported because the advertisement would be supportive of the views of the people in the part of the country where it was being sold.

The war provided an abundance of dramatic incidents to feature in nostrum advertising and also gave nostrum-makers a chance to display their patriotism. See's Army Liniment was introduced, and The Union Hair Restorative was marketed. Holloway's Pills issued a poster showing a blue-clad officer hurrying a box of the remedy to a sergeant who was doctoring a languishing private.[8]

In advertising aimed at the armies, the constant promise that various remedies could cure diarrhea and dysentery showed that the nostrum-makers were in touch with the hard truth. Letters and diaries, as well as official medical records, made it clear that bowel complaints were the most prevalent ailment among the Yankees and caused the most deaths. There was much self-treatment, and it is certain that harsh laxatives aggravated many a simple disorder into a health disaster. Nonetheless, many soldiers recovered from their dysenteric ailments, and some naturally assumed that the nostrums they had taken deserved the credit. Thus the patent medicine makers did not lack for military testimonials.

In addition to acquainting soldiers with various brands of pills and potions, the war helped the remedy manufacturers in another way. Thousands of soldiers returned to civilian life with ruined digestions, malaria, wounds, emotional disturbances, and other ailments that were to cause them trouble for the rest of their lives. Nostrum-makers were not unaware of this. Years after the war was over, they continued to direct advertisements and products to the brave, as well as medicine-taking, veteran. The general public, on the other hand, felt that if a certain nostrum was good enough for the veterans it was good enough for them. So, many unsuspecting and ailing people were drawn into the ranks of purchasers of worthless medication.

In the years following the Civil War, the late 1800's and early 1900's, patent medicines began to come under criticism from some who were tired of the public being defrauded and cheated by the medicine makers. Samuel Hopkins Adams, a free-lance journalist, published the most famous series of articles in American patent medicine history on October 7, 1905. These articles were called "The Great American Fraud" and they made a major campaign of the great fraud that was taking place with patent medicine vending. Adams' "muckraking" journalism came during the Progressive period but for several previous decades there had been other attacks on patent medicines. The weapons against nostrums were aimed with greater accuracy when medical science and pharmaceutical chemistry advanced. The target, patent medicines, kept enlarging and the blatancy of advertising increased however, as the volume of production boomed during the last quarter of the 19th century. Although nostrums came under a great deal of criticism, it was surprising there was not more.

In the late 1800's, prescribing by a physician was coming to an end as the manufacture of medicines became a major business, and physicians with the best intent had a hard time deciding what was good and what was worthless. The physicians were confronted with many "elegant" products, and the medicine maker would go directly to the physician to persuade the doctor that his medicine was the best buy. Much of this persuasion was done by putting advertisements in highly-regarded medical journals and periodicals. Most physicians naturally assumed that if the product was promoted in these highly-regarded journals the product was good enough for them. What criticism they heard about the particular nostrums was up to them to judge. Therefore, the physician was faced with a great dilemma in determining which medicine was ethical.

The druggist was also forced to face up to the criticism of patent medicines. As a man of science, he had to admit grave evils in the nostrum trade. As a merchant, he found the sale of proprietary remedies providing a big part of his gross income. One way that the pharmacist got around the dilemma was by realizing there

were good patent medicines and bad patent medicines and that he should confine his stock to the former. Another view was that the public would buy quack medicines anyway, and if pharmacists stopped selling them, less competent grocers would.[9]

In 1903, pharmacists and physicians started getting some help in solving their dilemma. The members of the Proprietary Association of America, assembled in Boston, heard very ominous news. Dr Harvey W. Wiley of the US Department of Agriculture submitted a report demanding stringent legislation regarding proprietary medicines. He also stated that no remedy should be sold which did not have its formula printed on the label, and no remedy containing alcohol or cocaine should be sold except by a doctor's prescription.[10] To say the least, this agitation greatly disturbed the Proprietary Association. They knew that such a law would practically destroy the sale of proprietary remedies in the United States.

Wiley was never a friend of quackery. As a boy he had known of a neighborhood nostrum dispensed to quiet malarial chills. As the chief chemist in Washington he collected bales of advertising of fraudulent remedies. However, his main concern had been with fraudulent food, and this had monopolized his research-time and criticism. When he finally joined the forces of those already decrying patent medicines, Wiley brought a sort of governmental sanction to the criticism. As the main fighter for a national law, he lent his personal prestige to the suggestion that patent medicines should be regulated by such a law. His fight for a drug law was not an easy one. Time after time Wiley's friends in congress introduced legislation that would regulate patent medicines and time after time they were struck down. His main antagonism came from legislators controlled by the wealthy nostrum-makers. But, Wiley was persistent, and on February 21, 1906, The Pure Food and Drugs bill passed in the senate.[11]

Wiley's act contained several requirements that proprietary remedies had to meet. It required that the labels which manufacturers put upon their medicines must tell the truth. The presence and amount of certain dangerous drugs, alcohol, the opiates, chloral hydrate, and others, must always be stated on the package. As the law stated, a remedy was adulterated if its strength or purity fell below the professed standard under which it was sold. A proprietor could not misinform about the state, territory, or country in which his product was made. Also, he could not put on his label anything that was false or misleading.[12]

Time revealed serious shortcomings in the 1906 law and challenged optimism about the public's ability to discriminate. Nonetheless, the Pure Food and Drugs Act marked a major turning point in patent medicine history. For more than a century, American medicine proprietors had been free to mix whatever they wanted and promote it however they wished. With Dr Wiley's law, the concept of control over proprietary remedy promotion was firmly written into national policy.

Despite laws and regulations, medical quackery continues to flourish. According to former Postmaster General Arthur Summerfield, more money was being made in medical quackery than in any other criminal activity.[13] The "take" each year was in the billions of dollars and growing every year. The bottom line seems to be that no matter how much regulation is enacted, there will always be someone to promote a medicine that defrauds the public. The general public is better informed now than they were 100 years ago, but the medicine manufacturers are more clever in their advertising and appeal. Today the Food and Drug Adminisration Act has stringent controls over medications and their purity and efficacy, but there are still many drugs on the market that have been proven to be less than desirable in their effectiveness. The general public, in the end, suffers because of the inadequacies of these medicines and the trumpery of the advertisements.

James Harvey Young continued the dramatic story of the promotion of health aids in *The Medical Messiahs,*[14] and a sequel to cover the current period of sophisticated communications would be welcome.

REFERENCES

1. James Harvey Young, *The Toadstool Millionaires,* (Princeton University Press, 1961), p. 4.
2. Ibid., p. 7
3. Ibid., p. 13
4. Ibid., p. 24
5. Ibid., p. 30
6. Ibid., p. 38
7. Ibid., p. 78
8. Ibid., p. 94
9. Ibid., p. 208
10. Ibid., p. 226
11. Ibid., p. 239
12. Ibid., p. 244
13. Ibid., p. 251.
14. Young, J. H.: *The Medical Messiahs* (Princeton University Press, 1967).

1912 Burnt Oak, Norman, OK 73071.

Seminar on Antibiotics VIII
Chloramphenicol

EVERETT R. RHOADES, MD

Chloramphenicol, in spite of serious toxicity, remains a drug with considerable usefulness in many conditions. These include intracranial infections, rickettsial diseases, typhoid, and certain infections caused by H. influenzae.

INTRODUCTION

Chloramphenicol, isolated from *Streptomyces venezuelae* in 1947, has had a somewhat troubled history. Early it was found to have a wide range of activity, especially against organisms resistant to previously available antimicrobics. However, as in the case of certain other antibiotics, concern about serious toxicity has limited the widespread use of chloramphenicol in the United States. In spite of the valid concern about its toxicity, it continues to be an antibiotic that has a role in the management of certain infections.

STRUCTURE AND MECHANISM OF ACTION

Compared with most other antibiotics, the structure of chloramphenicol is remarkably simple, consisting of a nitrobenzene ring with various substituent groups. Because of its simplicity, it was quickly synthesized in the laboratory, and all chloramphenicol in the United States is now synthesized.

Chloramphenicol inhibits bacteria by interfering with ribosome function. It binds to the 50-s subunit of the ribosome where it inhibits transpeptidation. This action is reversible if the period of exposure is for a short time only. Like other antibiotics that act at this point, it usually does not kill outright and therefore is considered "static" in its activity. However, with certain organisms, after prolonged contact with the drug, there is actual lysis of the cell, so in several situations it is indeed "cidal."

PHARMACOLOGIC ACTIVITY

Chloramphenicol administered orally is rapidly and completely absorbed. After oral administration of one gram to adults, a peak blood level of about 12 mcg/ml is achieved, approximately the same as that achieved by an intravenous dose. Chloramphenicol is excreted moderately slowly, with a serum half-life of about two to three hours. Detectible therapeutic levels may be present for up to six hours after the administration of an oral dose. The peak level after intravenous administration is achieved almost immediately.

Chloramphenicol is rapidly metabolized by the liver which conjugates it with glucuronic acid. The conjugated form has no antibacterial activity. Both the active and the metabolized forms are excreted by the kidneys and high concentrations of active compound are present in the urine. In renal failure there is very little accumulation of active chloramphenicol, so the dose need not be adjusted. There is an accumulation of the metabolites, but these do not appear to have appreciable toxicity.

A major advantage of chloramphenicol is that it diffuses readily into most body tissues including the aqueous humor of the eye and the cerebrospinal fluid, which it readily does even in the absence of inflammation. Concentrations of the drug in the cerebrospinal fluid approximate 50 per cent of that in the serum.

CLINICAL INDICATIONS

Although certain strains are resistant, chloramphenicol remains the drug of choice for treatment of typhoid fever. This disease has become relatively rare in the United States. In typhoid caused by chloramphenicol-resistant *Salmonella typhosa,* ampicillin or trimethoprim-sulfa are usually effective. Chloramphenicol is not indicated for the routine treatment of shigellosis, especially the milder forms, but it may be of some value in the more severe case. Other drugs are equally effective and do not carry the toxicity that chloramphenicol does. Chloramphenicol is extremely effective in the treatment of rickettsial infections such as Rocky Mountain Spotted Fever. Although milder cases of rickettsial infections respond very well to tetracycline, in the hospitalized patient, especially if renal failure is present, chloramphenicol has some advantage. Perhaps the most important use of chloramphenicol is in the treatment of undefined meningitis or meningitis caused by a variety of microorganisms such as *Hemophilus influenzae,* pneumococcus, and *Neisseria meningitidis,* especially in the penicillin-allergic patient. It has the added advantage of being quite effective against gram-negative aerobic organisms. In addition to bacterial meningitis, chloramphenicol in combination with a penicillin is indicated for the initial therapy of brain abscess. It is considered to be the drug of choice in severe systemic infections with *Hemophilus influenzae;* especially for strains that are resistant to ampicillin.

Chloramphenicol is also ordinarily very effective in the treatment of both aerobic and anaerobic gram-negative infections. It is one of the few antibiotics which have good activity against *Bacteroides fragilis,* an organism commonly resistant to penicillin. Thus, it is frequently employed in combination with other antibiotics in the treatment of suspected gram-negative septicemia. *Pseudomonas Aeruginosa* is ordinarily resistant to chloramphenicol.

PREPARATIONS AND MODES OF ADMINISTRATION

Chloramphenicol is available for oral use in capsules of 125 and 250 milligrams. It is also available in a suspension form for pediatric administration. Chloramphenicol sodium succinate is available in 250 milligram and one gram vials for intramuscular or intravenous administration. The usual daily oral dose for adults with severe infections is three-to-four grams given in four divided doses. The intravenous dose is the same.

ADVERSE EFFECTS

The most common toxic effect of chloramphenicol is suppression of both the red and white cell precursors in the bone marrow. Chloramphenicol interferes with the incorporation of iron into the hemoglobin molecule. In addition, it produces vacuolization of white cell and platelet precursors in the bone marrow. These effects are regular, dose-related, and reversible with discontinuation of the drug.

The most serious side effect of chloramphenicol is the production of aplastic anemia which occurs in 1 in 40,000 to 60,000 courses of therapy. This side effect represents an idiosyncrasy the mechanism of which is not known.

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Because of the high mortality associated with aplastic anemia, physicians obviously should use chloramphenicol only when the indications are definite. There is a widespread belief that aplastic anemia is associated only with the oral administration of the drug. However, cases have been reported following intravenous administration, and the physician should not feel that he is necessarily avoiding toxicity by using the intravenous route.

Other toxicity of chloramphenicol includes optic neuritis which, on rare occasions, has resulted in blindness. Most of this toxicity has been noted in children with cystic fibrosis treated with the drug for prolonged periods. Peripheral neuritis has also been reported.

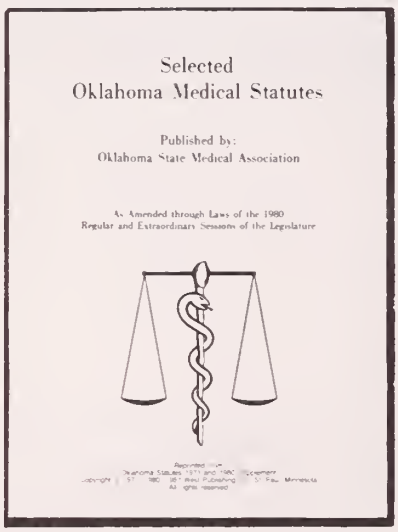
In immature infants the conjugation enzymes have not yet developed in the liver, so that administration of chloramphenicol may result in very high levels of the active compound. This results in the so-called "gray baby" syndrome characterized by a gray pallor, abdominal distension, nausea and vomiting, and frequently, circulatory collapse. Appropriate adjustment of the dosage downward permits one to avoid this complication. However, chloramphenicol therapy should be avoided in pregnant and in lactating women.

REFERENCES

1. Kucers, A. and Bennett, N. McK., The Use of Antibiotics, Third ed. William Heineman Medical Books, Ltd. London. 1979. pp. 420-456.
2. AMA Drug Evaluations. Fourth ed. American Medical Association. Chicago. 1980. pp. 1249-1254.
3. Standiford, H. Tetracyclines and Chloramphenicol in Mandell, G. L., Douglas, R. G., Jr., and Bennett, J. C. Principles and Practice of Infectious Diseases. John Wiley and Sons, New York. 1979. pp. 273-289.
4. Fink, T. J. and Gump, D. W. Chloramphenicol: An Inpatient Study of Use and Abuse. *Journ. Infect. Dis.* 138:690-694. 1978.
5. Feder, H. M., Jr., Osier, C. and Maderazo, E. G., Chloramphenicol: A Review of its Use in Clinical Practice. *Rev. Infect. Diseases.* 3:479-491. 1981.

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Coronary Artery Bypass Surgery: Scientific and Clinical Aspects

National Institutes of Health
Consensus Development
Conference Statement

December 3-5, 1980

A Consensus Development Conference was held at the National Institutes of Health on December 3, 4, and 5, 1980. The purpose of the conference was to consider the status of coronary artery bypass surgery in relation to five specific questions:

1. What is overall management of patients with coronary artery disease — that is, in what context should coronary artery surgery be considered?
2. What constitutes a reasonable diagnostic workup before recommending medical or surgical therapy?
3. What is known about long-term survival with coronary artery bypass surgery in specific patient groups?
4. What is known about long-term quality of life following coronary artery bypass surgery?
5. What is the range of success rates for the procedure in various settings, and what factors may be important in influencing this outcome?

1. What is overall management of patients with coronary artery disease — that is, in what context should coronary artery surgery be considered?

Coronary heart disease may be recognized by the physician as the clinical syndromes of angina pectoris, acute myocardial infarction, sudden cardiac arrest or ischemic cardiomyopathy. It may also be recognized in an asymptomatic form by detection of electrocardiographic evidence of prior myocardial infarction not recognized during the acute episode or by characteristic abnormalities of the electrocardiogram during exercise testing of apparently healthy persons. Once suspected by the physician, the diagnosis may be confirmed with various levels of certainty by utilization of one or more special diagnostic tests. The tests most commonly used include the electrocardiogram recorded during and after monitored graded exercise, in some institutions radionuclide studies of myocardial perfusion and ventricular function at rest and in response to exercise, and coronary arteriography with left ventricular angiography. In addition to confirming the diagnosis, such studies may provide information as to the pathological anatomy of the coronary arteries, the functional condition of the left ventricle and the overall response of the circulation to stress. These data may be combined with those obtained from the medical history and physical examination and with detailed knowledge of the natural history of the disease derived from many long-term follow-up studies of patients having such testing to form definable subsets of persons with widely different prognoses. Since a fundamental aspect of advanced coro-

nary heart disease is a greatly increased probability of sudden death or myocardial infarction, such prognostic information strongly influences the decision on whether to add coronary artery bypass surgery to the overall lifelong medical management recommended. If the combined data indicate that the patient is at high risk of sudden death or infarction — for example, the patient with severe stenosis of the main trunk of the left coronary artery or severe and proximal stenosis of multiple major coronary branches — especially serious consideration is given for surgery. On the other hand, if the studies indicate that there is no critical stenosis of any major coronary branch, then clearly surgery is not indicated and medical treatment is advised.

But a very large percentage of patients fit between these extreme examples. In these patients, recommendations for medical or surgical therapy are based upon two fundamental questions. One question, often most anxiety provoking to the patient, relates to the perception of the physician and the patient as to which course provides the greatest protection from disabling myocardial infarction or death. The second question relates to which course will allow the patient to obtain a satisfactory quality of life according to his own standards. The answers to these questions remain highly judgmental. The answer to the first is heavily based upon the physician's interpretation of a large volume of sometimes contradictory data of extraordinary complexity. The answer to the second is heavily based upon the individual patient's response to medical therapy and to his or her priorities.

It is common practice for the physician and patient, when faced with this problem, to initiate comprehensive medical therapy with subsequent periodic reevaluation of the patient's response to his treatment. It is critically important to recognize that appropriate, comprehensive medical care of the patient with coronary heart disease requires an intensive effort on the part of the physician, involving consideration of almost every aspect of the patient's life. It requires careful education of the patient and spouse on the nature of the disease and its management so as to allow adequate self-care on a continuing basis and to allow the patient to participate knowledgeably in major decisions affecting his or her life. It requires optimal control of risk factors for atherosclerosis and modification of lifestyle appropriate to the constraints imposed by the illness. This may affect both work and leisure activities. It may require long-term administration of such potent medications as nitroglycerin, beta-adrenergic blocking drugs, long-acting nitrates, antiarrhythmic agents and digitalis, among others. Effective and safe utilization of these therapeutic agents requires careful titration of dosage against both subjective and objective indices. If, after such careful and intensive medical treatment, the patient believes that the quality of life is so adversely affected that other alternatives must be sought, then surgical therapy may be advised in patients suitable for this operation. It must also be recognized that in many cases dissatisfaction with the altered lifestyle imposed by the illness is the result of inadequate attention to the details of management; failure of the physician to educate the patient concerning appropriate use of the indicated medications may be a particularly important cause of this outcome.

In patients with chronic stable angina and good ventricular performance, aorto-coronary revascularization of the heart, whether with autologous vein or artery, has had a progressive decline in operative mortality to levels as low as one-to-two percent at major surgical centers. A corresponding decrease in perioperative myocardial infarction has been achieved. These results are assumed to relate to better management of anesthesia, more complete myocardial revascularization and improved methods for protecting the heart during the period of coronary grafting. There seems to be no doubt that coronary bypass surgery can improve myocardial perfusion. Patency of aorto-coronary saphenous vein grafts has been in the range of 80-to-85 percent two years after operation. The procedure has been widely accepted as treatment in patients with unacceptable symptoms on medical therapy and in certain other subsets of patients with coronary artery disease.

2. What constitutes a reasonable diagnostic workup before recommending medical or surgical therapy?

A reasonable diagnostic workup of a patient with angina pectoris depends upon the clinical problem at issue. Instability and severity of angina, effect of disease on the quality of life, cardiac function and, to a certain degree, age

play a role in determining the workup of each patient. The workup should be done as efficiently as possible to provide definitive information upon which clinical decisions can be made. Unnecessary and redundant procedures should be avoided.

In some patients the clinical picture indicates the need for anatomic definition of the coronary anatomy to determine operability. There is consensus that patients with stable angina whose quality of life is significantly impaired by their symptoms should undergo coronary arteriography. Further, in patients with unstable angina, coronary arteriography should be performed during the initial phase of hospitalization; if maximal medical therapy does not relieve symptoms, this procedure should be done urgently. There is consensus that coronary artery bypass graft surgery is indicated in patients with unacceptable symptoms on appropriate medical treatment or with recurrent unstable angina, but the decision to operate must also depend on results of invasive studies.

In patients with typical angina not sufficiently severe to dictate surgery for relief of symptoms, noninvasive cardiac testing may be carried out initially in the attempt to identify those at high risk for major cardiac events. However, there is lack of consensus on the value of noninavasive testing in the workup of such patients. Some physicians prefer coronary arteriography as the initial diagnostic procedure, particularly in the young patient. Others recommend exercise electrocardiography in an attempt to identify patients with significant left main or triple-vessel disease. Such patients will often show early and/or excessive ST segment deviations, prolonged ST segment depression into the recovery period, or decrease in blood pressure during the test. In this category of patients, coronary arteriography should be carried out and, if high-risk pathology is found, coronary artery bypass surgery considered. The use of radionuclide studies to identify high-risk patients with left main and/or triple-vessel coronary disease needs further evaluation.

There is lack of consensus on the approach to evaluation of patients with questionable or atypical angina. In such patients exercise electrocardiography may be helpful in the identification of those with significant coronary disease; such identification may be enhanced by radionuclide studies in conjuntion with exercise testing, particularly in patients with resting electrocardiographic abnormalities which impair the interpretation of the exercise electrocardiogram. The presence of coronary artery disease may be indicated by transient myocardial perfusion defects, wall motion abnormalities or an abnormal response of the left ventricular ejection fraction to exercise. Further research is needed to determine the role of noninvasive testing in patients with, or those suspected of having, coronary artery disease.

Survivors of an acute episode of myocardial infarction are at high risk of sudden death during the first year after the infarction. Recent studies have demonstrated one-year mortality ranging from 10-to-15 percent of all survivors. Several investigators have reported that these patients can be divided into high- and low-risk subgroups on the basis of clinical information and such noninvasive testing as exercise electrocardiography, radionuclide studies of ventricular function, and ambulatory 24-hour electrocardiographic recording. It is believed that high-risk patients should undergo coronary arteriography and left ventricular angiography followed by surgical intervention of the coronary anatomy and left ventricular function are appropriate. It should be recognized, however, that the course of these patients undergoing surgery may differ from that of patients with stable or unstable angina and apparently similar coronary anatomy and ventricular function, in that they appear to exhibit a greater tendency for major ventricular arrhythmia. It is also recognized that there are as yet insufficient data to determine whether surgical intervention will reduce the mortality of this special subset of patients with coronary heart disease. Because of the relatively large number of patients included in this high-risk post-myocardial infarction subset, and the present uncertainty as to the proper course of management, an urgent need exists for further investigation of this problem.

The problem of the patient with coronary disease presenting with congestive heart failure needs special consideration. It is important to determine whether a lesion amenable to surgery is contributing significantly to the heart failure, eg, a ventricular aneurysm, severe mitral incompetence and/or a post-myocardial infarction ventricular septal defect. Two-dimensional echocardiography or radionuclide ventriculography may be noninvasive techniques of help in the evaluation of such patients.

3. What is known about long-term survival with coronary artery bypass surgery in specific patient groups?

The impact of coronary artery bypass graft surgery on survival of patients with coronary artery disease has been the focus of extensive debate since its introduction. In considering data on survival, the severity of left ventricular dysfunction has been determined to have an adverse effect on survival, and comparisons between surgical and medical therapy must take this into account as well as the anatomic location and extent of disease defined by coronary arteriography.

It is well recognized that the interpretation of the results of surgical series by comparison with historical controls is difficult. It is especially hazardous in the assessment of coronary artery surgery because of marked changes between early and recent results, both for surgically treated and for medically treated patients. Several recently published series with long-term follow-up of patients undergoing coronary artery bypass surgery have documented an impressively low operative mortality with remarkable long-term survival. At the same time, other studies have noted a marked improvement in recent years in the survival of medically treated patients. Accordingly, it seems unlikely that convincing evidence of the benefits of surgery in appropriately defined subgroups can be effectively assessed from other than adequately controlled studies.

There is consensus that coronary artery bypass surgery in patients with angina pectoris and greater than 50 percent narrowing of the lumenal diameter of the left main coronary artery results in improved survival when compared with results on medically treated patients regardless of left ventricular function or degree of angina pectoris. (Survival rates with medical and surgical therapy were 60 and 89 percent respectively at four years in the VA trial, and 67 percent and 89 percent at five years in the European trial. Left main coronary artery stenosis of this severity is reported in approximately ten percent of patients undergoing coronary arteriography.*)

There are only a few prospective randomized trials and observational studies with concurrent medically treated controls to assess the impact of surgery on survival. Furthermore, the application of such results to the overall population with symptomatic coronary artery disease, treated in a variety of centers, must be done with caution. This compounds the problem of judging the effects of coronary artery bypass surgery on survival in patients with three-vessel disease for whom conflicting data exist. (Three-vessel coronary artery disease of surgical significance is reported in 30 to 40 percent of angiographic studies.*) The VA Cooperative Randomized Trial was reviewed. The initial report failed to demonstrate improved survival with surgery in patients with three-vessel disease, the majority of whom had moderate impairment of left ventricular function. However, if one accepts the analysis of the VA data for the ten hospitals (which include 87 percent of the patients) in which the average operative mortality was 3.4 percent and eliminates the three outliers in which the average operative mortality was 23 percent, a significantly improved survival with surgery is observed. There is evidence from observational studies which suggests improved survival in patients with three-vessel disease and moderate impairment of global left ventricular function, ie, left ventricular ejection fraction in the range of 25-to-50 percent.

Data were reviewed that suggested improved survival after coronary artery bypass grafting in patients with three-vessel disease and good left ventricular function defined as left ventricular ejection fraction greater than 50 percent. The European Collaborative Randomized Trial demonstrates improved survival for surgically treated patients in this subset. Though the differences observed in the European trial are impressive (survival rate at 60 months was 82 percent for the medical group and 94 percent for the surgical group), there is consensus that confirmation of these findings by additional studies is needed before a firm conclusion can be reached on the question of improved survival in patients with three-vessel disease and good left ventricular function as defined. Other smaller randomized trials and observational studies have yielded conflicting results in this subset.

The two large randomized studies examined do not provide evidence for improved survival with surgery of patients with two-vessel disease regardless of the status of the left ventri-

*Estimates of prevalence of lesions found on coronary angiography have a significant dependence on the criteria for angiography; thus considerable variability may exist among individual institutions.

cle, while some observational studies have suggested improvement in survival with surgery of patients with two-vessel disease and moderate impairment of left ventricular function. There is no evidence currently available to support improved survival after surgery in patients with single-vessel disease regardless of left ventricular functional status.

We do not find data adequate to support the conclusion of improved survival with surgery in patients with severe degrees of left ventricular functional impairment, ie, left ventricular ejection fraction less than 20 percent.

Review of the National Heart, Lung, and Blood Institute Multicenter Randomized Unstable Angina Pectoris Trial, which excluded patients with left main coronary artery disease or persistent unstable angina, has failed to show improved survival of those treated by urgent surgery compared to those treated exclusively by medical management unless surgery was dictated by chronic symptomatology. The extent to which results in this highly selected group of patients can be extrapolated to other subsets of unstable angina patients is not established.

It is important to reemphasize that surgery may still be appropriate in patient subsets where evidence of improved survival with surgery is lacking if symptoms of myocardial ischemia are sufficiently severe or if large areas of myocardium are in jeopardy. Further attempts should be encouraged at identifying other variables, currently unmeasured, which may affect survival and thus provide methods for more critical testing of therapeutic effectiveness.

4. What is known about the long-term quality of life following coronary artery bypass surgery?

There are few objective criteria by which quality of life can be assessed following coronary artery bypass surgery. The symptom of angina pectoris is reported to be relieved in 80-to-90 percent of patients undergoing operation for chronic stable angina. Bypass surgery has reduced the subsequent number of cardiac-related events, amount of medication required and frequency of hospitalizations. The majority of postoperative patients have been able to increase their exercise capacity and their New York Heart Association functional class. This has been documented by improvements in functional exercise testing, angina threshold, left ventricular wall motion, left ventricular ejection fraction during exercise, indices of myocardial oxygen consumption during exercise and greater lactate extraction across the myocardium.

Improvements in symptoms and functional capacity associated with coronary bypass surgery theoretically should result in more individuals returning to gainful employment. The consensus is that this expectation has not been accomplished. It is recognized that physicians do not make consistent recommendations to patients regarding exercise potential and employability after successful coronary bypass surgery. Factors extraneous to the patient-physician relationship such as preoperative work status, availability of nonwork income, perception of health, age, level of education, and employer attitudes all appear to influence the postoperative employment status. Whether or not the patient returns to work after coronary bypass surgery depends on too many nonmedical factors to allow any conclusions regarding efficacy of therapy based on this parameter.

It is reported that angina will recur or progress after bypass surgery in about five percent of patients per year. In approximately two-thirds of these patients, symptoms are related to closure of the vein graft or progression of disease in the native circulation. This may be related to persistent elevation of blood lipids or poor control of other risk factors. The entire question of mechanisms involved in progression of atherosclerosis in the coronary circulation and in grafts is important and requires further investigation.

Similar results regarding quality of life have been observed in patients undergoing coronary bypass surgery for unstable angina, but the reported follow-up data are of shorter duration than those cited, which are based predominantly upon patients with stable angina.

5. What is the range of success rates for the procedure in various settings, and what factors may be important in influencing this outcome?

The institutional setting in which bypass graft surgery is performed may importantly influence the rate of success of the operation in various clinical subgroups. Excellence can be achieved in a variety of hospital settings provided appropriate medical and technical support is available to complement an experienced

and skilled surgical team. This would include expertly performed angiography in suitably equipped laboratories, the availability of other subspecialty resources and appropriate laboratory and blood banking facilities.

Successful intraoperative management, reflected in low rates of mortality, perioperative infarction and other postoperative complications, and short hospital convalescence will depend not only upon surgical skill and judgment, but also upon the availability of competent anesthesiologists, efficient extracorporeal support, optimal myocardial preservation techniques and minimal duration of myocardial ischemia consistent with optimal revascularization.

Postoperative management requires a suitable intensive care facility, dedicated personnel and the availability of circulatory support systems.

With the experience that has been accumulated to date, the following expectations for hospital mortality and perioperative infarction are achievable:

- In patients with chronic stable angina pectoris and normal or moderately impaired left ventricular function, a hospital mortality rate of four percent is generally attainable, and a rate of less than one percent is possible. The incidence of electrocardiographically documented perioperative infarction might approximate five percent.
- In the syndrome of unstable angina pectoris, early results will depend upon the institution's approach to management. A somewhat higher incidence of morbidity and mortality may result from earlier operative intervention compared to lesser risks after a longer period of stabilization and exclusion of patients with evolving infarctions. With initial stabilization and nonemergency operation, hospital mortality and perioperative infarction rates should approach those for patients with chronic stable angina pectoris. Even with early intervention, a hospital mortality of 6 percent is generally attainable, and perioperative infarction might approximate ten percent.
- The existence of left main coronary artery involvement has been associated with high operative risks in the past. Currently, and except under emergency conditions, individuals with this lesion can be operated upon with morbidity and mortality rates only slightly higher than for those with chronic stable angina with other coronary anatomy.
- Bypass grafting in patients with severe left ventricular dysfunction has been associated with high operative morbidity and mortality. Recent improvements in perioperative management have lessened the risks. In patients with very severe myocardial dysfunction — that is, ejection fractions of less than 25 percent — a hospital mortality rate no greater than 15-to-20 percent is generally achievable.
- At this time there is insufficient information to identify the role of bypass surgery in patients with acute myocardial infarction, intractible ventricular arrhythmias or asymptomatic patients with jeopardized myocardium.

For all categories of patients, average one-year graft patency of 85-to-90 percent should be achievable. The roles of anticoagulant and antiplatelet therapy, as well as other interventions which may affect late graft patency and retard the arteriosclerotic process are not known at this time and require further study.

CONCLUSION

There is consensus of the panel that coronary artery bypass surgery represents a major advance in the treatment of patients with coronary artery disease. Evidence has been presented to support the conclusion that improvement in the quality of life, decreased myocardial ischemia, and increased survival in selected subsets of patients have been demonstrated following coronary artery bypass surgery.

Hazardous Substances

News From The Oklahoma State Department of Health

Physicians often have to respond to an emergency resulting from exposure to or misuse of various household substances. Hazardous substances used in the home environment to clean, sanitize and disinfect, and products such as lighter fluid, lacquers, thinners and paint strippers present a risk to children and unwary adults.

The color and design of modern packaging, created for impulse buying, offers an irresistable attraction to small children, making the hazardous product an interesting — and sometimes fatal — subject for investigation. Hazardous household substances are the second major cause of poisoning incidents involving children under age five in Oklahoma. Household products that are hazardous or potentially hazardous may be required by law to be packaged in child-resistant containers. Safety packaging is proving effective in saving lives, as shown by data from the National Center for Health Statistics in Washington, DC. The total number of deaths among children under five from accidental poisonings has declined since the use of child-resistant packaging for hazardous household products has been in effect.

The Oklahoma Hazardous Substances Law requires that any substance that is toxic, corrosive, an irritant or strong sensitizer, flammable, or generates pressure through decomposition, heat, or other means be so labeled, and that ingredients be listed by common or chemical name. The label may also describe appropriate first aid treatment.

The physician can often determine the degree of hazard by referring to the "signal" word on the label: "Poison" for any hazardous substance which is highly toxic; "Danger" for substances which are extremely flammable, corrosive, or highly toxic; "Warning" or "Caution" for all other hazardous substances. □

COMMUNICABLE DISEASES IN OKLAHOMA FOR OCTOBER, 1981

DISEASE	OCTOBER 1981	OCTOBER 1980	SEPTEMBER 1981	TOTAL TO DATE 1981	1980
Amebiasis	3	3	2	24	39
Aseptic Meningitis	15	14	3	94	53
Brucellosis	1	1	3	7	8
Encephalitis, Infectious	3	4	1	22	14
Gonorrhea (Use Form ODH-228)	1422	1244	1489	13313	11696
Hepatitis A	26	17	16	252	311
Hepatitis B	27	24	19	194	182
Hepatitis Unspecified	16	16	20	128	216
Malaria	—	—	—	6	12
Measles (Rubeola)	1	1	—	6	775
Meningococcal Infections	5	2	1	41	20
Pertussis	—	1	—	2	24
Rabies (Animal)	11	27	23	194	223
Rocky Mountain Spotted Fever	—	4	3	95	63
Rubella	1	1	1	2	6
Salmonellosis	44	56	50	354	302
Shigellosis	60	21	80	377	206
Syphilis (Use Form ODH 228)	27	12	10	154	99
Tetanus	—	—	—	1	1
Tuberculosis	11	18	20	272	268
Tularemia	2	2	7	26	21
Typhoid Fever	—	2	1	5	7

OSMA JOURNAL / *news*

Trustees Act on Proposals For PLICO, Endowment Fund

The OSMA Board of Trustees acted on several important issues at its November 22, 1981, meeting, including proposals to expand the operations of the Physicians Liability Insurance Company (PLICO) and to reallocate funds donated to endow a chair in graduate medical education.

The PLICO proposal focused on expanding the company's operations to include a group health and accident insurance policy covering OSMA member physicians, their families, and their employees. It was presented to the board by Rod Frates, executive vice president of the C. L. Frates Company, PLICO's management company.

Following the presentation, the board approved a resolution introduced by the PLICO Board of Directors to develop the health and accident insurance program. The program is expected to go into operation early this year.

The objectives of the program, as stated in the proposal, are to:

- make all physicians in Oklahoma, their families, and their employees insurable
- provide health insurance at a lower premium than that offered by commercial carriers
- provide the broadest possible benefits to OSMA members
- develop a simplified policy that will eliminate the preponderance of claims and coverage disputes
- test a "stay-well bonus" concept that involves the consumer of medical services in the decision-making process
- test the true group concept on an association-wide basis as a demonstration program

Designed with these objectives in mind, the program will dispense with the costs of underwriting and soliciting business and will employ a streamlined system designed to process claims faster and more efficiently.

Detailed information on the new program will be mailed to OSMA members.

Another proposal taken up by the board centered on the disposition of funds donated to endow a chair in graduate medical education at the University of Oklahoma College of Medicine.



Dr Mark R. Johnson (left), Editor-in-Chief of the *OSMA Journal*, prepares to present Dr R. Palmer Howard with a Distinguished Service Award for Dr Howard's contributions to the association and the *Journal*.

Because the amount of money collected fell considerably short of the target of $750,000, the board had instructed the OSMA Council on Medical Education to come up with a plan for handling the $110,000 donated to date. The council recommended that OSMA contact donors with an offer to return their donations or, if the donor concurred, to use the funds to help finance the scientific program at the OSMA Annual Meeting.

The board agreed to the first part of the recommendation, ie, offering to return the donations, but voted against using the donations to fund the scientific program. An alternate proposal to use the funds to establish a professorship in diabetes at the University of Oklahoma was tabled by the board until the Council on Medical Education can meet again to discuss the matter.

In other actions, the board:

- approved a recommendation by the Council on State Legislation that the OSMA president select an ad hoc committee to work with attorneys on malpractice issues
- approved OSMA Life Memberships for five association members
- presented a Distinguished Service Award to Dr R. Palmer Howard for his service to the association and his outstanding contributions to the OSMA *Journal*
- allocated $2,000 to assist in funding the Thomas N. Lynn Lectureship established by the University of Oklahoma Department of Community Medicine
- allocated $15,000 for improvements to the OSMA headquarters building. □

Brandt Says Hard Choices Facing Medical Profession

The need for the medical profession to make difficult choices and to adjust to a changing national environment were the themes of the first Thomas N. Lynn lecture given by Dr Edward N. Brandt, Jr., Assistant Secretary for Health, US Department of Health and Human Services.

Dr Brandt, a native Oklahoman, launched the Lynn lecture series before an audience of several hundred physicians on October 29, 1981, at Oklahoma Children's Memorial Hospital in Oklahoma City.

Speaking of the national changes to which physicians must adapt, Dr Brandt focused on four areas: demographic changes resulting from the maturing of the "baby boom" generation; rapid and profound expansion of the medical knowledge base; changes in the ethical and legal relationships between physician and patient; and realignment of the power balance between the federal and state governments.

Within the context of these factors, Dr Brandt singled out the area of research as one of the major health policy choices for the medical profession to consider. He noted that while present and past administrations have placed a high value on the nation's research capabilities, these capabilities will now be focused on a narrower range of targets.

Within the Public Health Service, which Dr Brandt administers, the National Institutes of Health (NIH) is the only segment slated for a funding increase in the 1982 federal budget; funding for all other elements is being decreased.

In subsequent years, the NIH program will be following what Dr Brandt called the "principle of stabilization." NIH will concentrate on priority research within a stable, predictable research program. "To stabilize is to choose to accept and reject," he pointed out, adding that NIH has not had to make such choices to this extent in the past.

Dr Brandt asked physicians to assist in determining the road that NIH will travel. "It is a true test of the strength of our character," he said. "Will we be able to discard things we wouldn't have in wealthier times?"

According to Dr Brandt, two guidelines will be followed in making research choices: follow leads that offer the most promising results and focus on promoting health and preventing disease.



Wilson D. Steen (left), head of the Department of Community Medicine, University of Oklahoma College of Medicine, presents a plaque in honor of the Lynn lecture series to Dr Thomas N. Lynn, Jr. (right). Looking on is Dr Edward N. Brandt, Jr., Assistant Secretary for Health, US Department of Health and Human Services.

"These are complex but exciting times to practice medicine," he noted. "The medical profession must take these times and these issues seriously. If you're not concerned with these issues," he told the audience, "now is the time to get concerned." □

Conference on Impairment Scheduled for March 5

The American Society of Law & Medicine will sponsor a conference on "Impaired Health Care Professionals: A Challenge to the Professions" on March 5, 1982, at the Detroit Plaza Hotel, Detroit, Michigan.

The purpose of the conference is to increase awareness of the impact of impairment on the quality of health care and the individual practitioner and to promote better patient care by highlighting the problems involved in dealing with impaired health care providers.

The conference will focus on identifying types and causes of impairment, examining approaches used to detect and treat impairment, and clarifying the legal implications of impairment.

Information on conference fees, registration, and accommodations may be obtained from the American Society of Law & Medicine, 765 Commonwealth Ave., 16th Floor, Boston, Massachusetts 02215, (607) 262-4990. □

MEDICAL-LEGAL SEMINARS PRESENTS

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A one-day seminar for physicians, office managers and clinic managers interested in considering the use of a computer in an office practice. This is a basic "how to" program designed to answer questions about computers and their use in billings, collections, scheduling, patient records, business records, patient education, inventory control, word processing, diagnostic research, and medication indications and contraindications.



9 AM - 4 PM

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Excelsior Hotel
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Medical-Legal Seminars
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Oklahoma City, OK 73118

Health Fair Week '82 Set for Oklahoma City, Tulsa

Health Fair Week '82 has been scheduled for March 28-April 4 in Oklahoma City and surrounding communities and for April 25-May 2 in the Tulsa metropolitan area. Sites selected for the fair will be at convenient locations easily accessible to local residents.

Organized by the National Health Screening Council for Volunteer Organizations, Inc., Health Fair Week is designed to promote health awareness among citizens and to encourage the development and maintenance of good health habits.

The fair incorporates multiple health screenings for fair visitors with important information on health education. Screening results are reviewed with participants by a medical professional. All participants receive a completed copy of their health history and screening report; those with abnormal results are contacted by a health professional and encouraged to take appropriate action.

Each area health fair is tailored to the community it serves and is staffed by volunteers from community health and service groups. □

OMSA President Addresses Garfield County Society

In a recent address to members of the Garfield County Medical Society, Dr James B. Pitts, OSMA president, discussed some of the pressing political and professional issues confronting Oklahoma physicians today.

Focusing on the impact of federal budget reductions, Dr Pitts warned the physicians that cuts in the Medicare and Medicaid programs were certain to affect their patients.

"The main thing to remember here," he said, "is that Medicare is a patient reimbursement program. It's not the doctor who is discriminated against, but the patient, if Medicare regulations result in low payments to rural patients."

He noted that under Medicaid, however, it is the physician who is penalized if a reasonable fee is not paid, since Medicaid is operated as a physician reimbursement program.

"There are many states with payments that are 50 to 60 percent of costs," Dr Pitts pointed out. "For the most part, Oklahoma has escaped that problem, but with recent state legislative action and federal cutbacks, we can anticipate problems in the future."

To deal with these expected problems, Dr Pitts urged society members to continue to support OSMA leadership in its efforts to make the program as equitable as possible. He also encouraged them to provide strong financial support to the Oklahoma Medical Political Action Committee (OMPAC) so that OSMA members' views will be considered seriously by those who enact legislation that affects the medical profession.

Commenting on association-related programs, Dr Pitts discussed the success of the Physicians Liability Insurance Company (PLICO), now the fourth largest domestic casualty company in Oklahoma. He commended the physician committees that oversee PLICO and reviewed the proposal under consideration to expand PLICO's operations to include a health and accident insurance program. □

New AMA Program to Focus On Socioeconomic Trends

A new data collection program, the Socioeconomic Monitoring Systems (SMS), is being established by the American Medical Association (AMA). This program is designed to provide more timely data on socioeconomic indicators of physicians' practices. The information gathered will be an important resource for measuring changes and determining trends in the environment of medical practice.

Each quarter a representative national sample of about 2,000 physicians will be asked to participate in a telephone survey to provide data for SMS. Participants will be selected through a random drawing of physician names from the AMA Physician Masterfile. The validity of the data gathered in the survey will depend on the willingness of selected physicians to participate.

The SMS surveys will be conducted for the AMA by Mathematic Policy Research, Inc, a highly respected survey research firm. □

Tulsa Study Urges Freeze on Med School Class Sizes

A comprehensive 16-month study of Tulsa area medical education conducted by the Tulsa County Medical Society calls for a freeze on class sizes in Tulsa medical schools and residency training programs.

The study recommends that there be no increase or reduction in the size of classes entering the University of Oklahoma Tulsa Medical College, Oral Roberts University School of Medicine, and the Oklahoma College of Osteopathic Medicine and Surgery. It also recommends that the number of residency positions remain at the present level and that no new specialty residency training programs be created.

Other key conclusions and recommendations of the study include:

- No new ambulatory care teaching centers should be established by the three Tulsa medical schools. Existing clinics should be restructured to serve indigent and low-income patients, with costs to be borne by the government agencies responsible for providing such care.
- Tulsa Medical College should continue as a two-year school of medicine, with emphasis on teaching by qualified clinical faculty.
- It is impractical for Tulsa Medical College and the Oklahoma College of Osteopathic Medicine and Surgery to combine or share facilities or faculty.
- Oral Roberts University and City of Faith Medical and Research Center should continue to work with the medical education and health care community to evaluate the center's role and to resolve mutual problems. The City of Faith should assume exclusive responsibility for the care of indigent patients that it attracts from outside the state of Oklahoma.
- Tulsa's medical schools should work together in developing programs of continuing medical education for graduate physicians and allied health care personnel in Tulsa County.
- The Tulsa County Medical Society should establish a liaison committee to work with all segments of medical education in a continuing study of physician manpower.
- The Tulsa County Medical Society should initiate two feasibility studies — one to determine whether to establish a health education center for the public in Tulsa and the other to determine whether an independent body could be set up to review residency training programs and recommend changes as needed.

The report of the study findings was prepared by the Study Committee on Medical Education of the Tulsa County Medical Society. Committee members include Dr John R. Alexander, chairman, Dr George H. Kamp, Dr Victor L. Robards, Jr, and Dr Lenard A. Poplin.

The board of directors of the county society unanimously endorsed the study findings and directed that a continuing program be developed to implement the study's major recommendations. □

Updated DES Publications Available to Physicians

The National Cancer Institute (NCI) has published an updated physician information booklet titled *Prenatal Diethylstilbestrol (DES) Exposure: Recommendations of the Diethylstilbestrol Adenosis (DESAD) Project for the Identification and Management of Exposed Individuals.*

Based on research findings of the past five years, the booklet presents the latest information on the health status of DES-exposed persons and describes methods for identifying, examining, and managing such individuals. Illustrations and step-by-step instructions are designed to aid physicians in readily identifying exposed individuals. Interviewing techniques are included for identifying potentially exposed mothers and children.

The booklet also contains a list of educational materials for display, publications of the DESAD project, publications of the registry for research on hormonal transplacental carcinogenesis, and other recent references.

Other NCI publications available on the same subject include new editions of *Questions and Answers About DES Exposure* and a public alert brochure titled *Were You or Your Daughter or Son Born After 1940?*

All of these publications may be obtained without charge from the Office of Cancer Communications, Department SC, National Cancer Institute, Bethesda, Maryland 20205. □

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Five Physicians Elected to OSMA Life Membership

Five Oklahoma physicians were elected to OSMA Life Membership at the November 22 meeting of the OSMA Board of Trustees. The new life members are William P. Neilson, MD, of Enid, and Claude M. Bloss, Jr., MD, Forest R. Brown, MD, John J. Coyle, Jr., MD, and R. Palmer Howard, MD, all of Oklahoma City.

To be eligible for OSMA Life Membership, a physician must be a member in good standing of the association and must meet one or more of the following criteria: (a) be retired from the active practice of medicine because of ill health or age; (b) be engaged in the active practice of medicine for 50 or more years; (c) be 70 years of age. □

Supreme Court Will Rule On Insurance Peer Review

The United States Supreme Court has agreed to determine whether the practice of peer review used by the insurance industry to evaluate reimbursement claims for medical expenses could subject insurance companies and participating doctors to antitrust liability.

The case accepted by the court involves a New York chiropractor whose fees were found by a peer review committee to be unusually high. The chiropractor, Alexander Pireno, brought suit against the Union Labor Life Insurance Company and the New York Chiropractic Association, charging that the peer review process was being used to set an upper limit on fees, a price-fixing conspiracy illegal under antitrust laws.

Pireno's suit was dismissed by the United States District Court but was reinstated by the United States Court of Appeals for the Second Circuit. The district court's dismissal was based on an exemption from antitrust scrutiny granted the insurance industry by the McCarran-Ferguson Act. The appeals court's reinstatement was based on its ruling that the peer review process was not part of the "business of insurance" exempted by the act.

The Supreme Court's decision will have a major impact on the peer review process and on the physicians who volunteer to serve on peer review committees. Insurance companies refer some 10,000 claims a year to peer review committees.

Joining the defendants' appeal to the Court are the Health Insurance Association of America and the American Council of Life Insurance. □

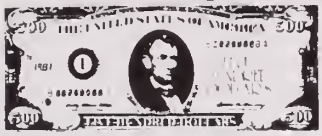
IN MEMORIAM

1981

Athol L. Frew, Jr., DDS, MD	*January 1*
William R. Morris, MD	*January 17*
Geoffrey Kelham, MD	*January 27*
Charles G. Stuard, MD	*January 30*
Fred S. Watson, MD	*February 3*
Robert J. Terrill, MD	*February 16*
David J. Tomko, MD	*March 4*
Eugene F. Lester, Jr., MD	*March 16*
J. Samuel Binkley, MD	*March 16*
Gilbert L. Hyroop, MD	*April 15*
Leo A. Myers, MD	*April 19*
J. Holland Howe, MD	*April 20*
Harold M. McClure, MD	*April 27*
Sam W. Hendrix, MD	*May 12*
Roger C. Good, MD	*June 16*
Frederick G. Dorwart, MD	*June 16*
Joseph W. Kelso, MD	*June 18*
Rufus K. Goodwin, MD	*June 25*
Orville C. Armstrong, MD	*July 9*
Charles F. Paramore, MD	*July 10*
James D. Reynard, MD	*July 21*
Mark R. Everett, PhD	*August 17*
Khalil Ahmad, MD	*August 22*
M. H. Haskell, MD	*August 30*
C. F. Foster, Jr., MD	*October 11*
E. E. Shircliff, MD	*October 23*
S. N. Stone, Jr., MD	*November 9*

□

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If you owned a machine that printed a brand new $500 bill each week, you'd be most fortunate wouldn't you? But, what if this very special machine had parts that could not be replaced? As a prudent person in control of such a machine you would want some assurance that if the machine stopped producing $500 bills, you could still receive them, wouldn't you?

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Three plans are available. Plan L-65 pays accident benefits for lifetime. Sickness benefits are payable to age 65, or for a 2-year maximum period if disability begins between ages 63 and 70. Benefits are payable for 10 years based on being unable to perform every duty of your occupation, thereafter, based on being unable to perform the duties of any gainful occupation for which you are reasonably fitted.

Semi Annual Premium — Benefit payable after 8 days for sickness, first day for accidents.

Plan L-65



WEEKLY INDEMNITY	UNDER AGE 30	AGE 30-39	AGE 40-49	AGE 50-59	AGE 60-69
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400.00	241.50	277.50	381.50	513.50	418.50*
300.00	181.50	208.50	286.50	385.50	418.50
200.00	121.50	139.50	191.50	257.50	279.50
100.00	61.50	70.50	96.50	129.50	140.50

For full particulars, contact JANE GRIFFITH

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City of Faith Hospital Marks Official Opening

The City of Faith Medical and Research Center, located next to the Oral Roberts University campus in Tulsa, has officially opened its hospital doors. Ten floors of the 30-story hospital facility were readied to admit patients as the first phase of hospital service began in November.

The hospital is part of a $250 million medical complex that includes a 60-story clinic and 20-story research and continuing education center. The clinic was opened in July 1981. The entire complex is expected to be completed and operating fully by July 1988.

Conceived and built in conjunction with the Oral Roberts Ministries, the City of Faith employs a "whole-person" approach to health care that combines medical science and technology with formalized spiritual care. The complex will serve as a primary teaching hospital for the medical, nursing, and dental schools of Oral Roberts University. □

Miscellaneous Advertisements

EMERGENCY PHYSICIANS — Oklahoma, Kansas, Missouri. Emergency medicine positions available in metropolitan, rural and recreational areas. Flexible scheduling allowing personal time off. Competitive compensation varying with facility and patient volume. Training and/or experience in emergency medicine, family practice or internal medicine. Forward C V or call Gina Taylor, Emergency Medicorp, P.A., 1950 East Santa Fe, Olathe, Kansas 66062. (800) 255-6160 or (913) 764-6160.

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Tablets

DESCRIPTION

Each prolonged action tablet contains:

Phenylephrine Hydrochloride	25 mg
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Chlorpheniramine Maleate	8 mg
Hyoscyamine Sulfate	0.19 mg
Atropine Sulfate	0.04 mg
Scopolamine Hydrobromide	0.01 mg

Ru-Tuss Tablets act continuously for 10 to 12 hours.

Ru-Tuss Tablets are an oral antihistaminic, nasal decongestant and anti-secretory preparation.

INDICATIONS AND USAGE Ru-Tuss Tablets provide relief of the symptoms resulting from irritation of sinus, nasal and upper respiratory tract tissues. Phenylephrine and phenylpropanolamine combine to exert a vasoconstrictive and decongestive action while chlorpheniramine maleate decreases the symptoms of watering eyes, past nasal drip and sneezing which may be associated with an allergic-like response. The belladonna alkaloids, hyoscyamine, atropine and scopolamine further augment the anti-secretory activity of Ru-Tuss Tablets.

CONTRAINDICATIONS Hypersensitivity to antihistamines or sympathomimetics. Ru-Tuss Tablets are contraindicated in children under 12 years of age and in patients with glaucoma, bronchial asthma and women who are pregnant. Concomitant use of MAO inhibitors is contraindicated.

WARNINGS Ru-Tuss Tablets may cause drowsiness. Patients should be warned of the possible additive effects caused by taking antihistamines with alcohol, hypnotics, sedatives or tranquilizers.

PRECAUTIONS Ru-Tuss Tablets contain belladonna alkaloids, and must be administered with care to those patients with glaucoma, or urinary bladder neck obstruction. Caution should be exercised when Ru-Tuss Tablets are given to patients with hypertension, cardiac or peripheral vascular disease or hyperthyroidism. Patients should avoid driving a motor vehicle or operating dangerous machinery (See Warnings).

OVERDOSAGE Since the action of sustained release products may continue for as long as 12 hours, treatment of overdoses directed at reversing the effects of the drug and supporting the patient should be maintained for at least that length of time. Saline cathartics are useful for hastening evacuation of unreleased medication. In children and infants, antihistamine overdosage may produce convulsions and death.

ADVERSE REACTIONS Hypersensitivity reactions such as rash, urticaria, leukopenia, agranulocytosis, and thrombocytopenia may occur. Other adverse reactions to Ru-Tuss Tablets may be drowsiness, lassitude, giddiness, dryness of the mucous membranes, tightness of the chest, thickening of bronchial secretions, urinary frequency and dysuria, palpitation, tachycardia, hypotension hypertension, faintness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydriasis, xerotomia, blurred vision, anorexia, nausea vomiting, diarrhea, constipation, epigastric distress, hyperirritability, nervousness, dizziness and insomnia. Large overdoses may cause tachypnea, delirium, fever, stupor, coma and respiratory failure.

DOSAGE AND ADMINISTRATION Adults and children over 12 years of age, one tablet morning and evening. Not recommended for children under 12 years of age. Tablets are to be swallowed whole.

HOW SUPPLIED:

Bottles of 100 Tablets	NDC 0524-0058-01
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Each fluid ounce of Ru-Tuss Expectorant contains:

Codeine Phosphate (WARNING: MAY BE HABIT FORMING)	65.8
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Phenylpropanolamine Hydrochloride	20
Pheniramine Maleate	20
Pyrilamine Maleate	20
Ammonium Chloride	200
Alcohol	

Ru-Tuss Expectorant is an oral antitussive, antihistaminic, nasal decongestant and exp torant preparation.

INDICATIONS AND USAGE Ru-Tuss Expectorant is indicated for symptomatic relief of up respiratory congestion associated with pharyngitis, tracheitis, bronchitis, and allergic r tis. Also, for the temporary relief of symptoms associated with hay fever, allergies, n congestion and cough due to the common cold.

CONTRAINDICATIONS Hypersensitivity to antihistamines. Concomitant use of an hypertensive or antidepressant drug containing a monoamine oxidase inhibitc contraindicated.

Ru-Tuss Expectorant is contraindicated in patients with glaucoma, bronchial asthma in women who are pregnant.

WARNINGS Ru-Tuss Expectorant contains codeine phosphate, therefore, the patient sho be warned of the potential that this drug may be habit forming. Ru-Tuss Expectorant r cause drowsiness. Patients should be warned of the possible additive effect caused taking antihistamines with alcohol, hypnotics, sedatives and tranquilizers.

PRECAUTIONS Patients taking Ru-Tuss Expectorant should avoid driving a motor vehicl operating dangerous machinery (See Warnings). Caution should be taken with pati having hypertension, diabetes, hyperthyroidism and cardiovascular disease.

Caution should also be used in patients with pulmonary, hepatic or renal insufficienc

ADVERSE REACTIONS Ru-Tuss Expectorant may cause drowsiness, lassitude, giddin dryness of mucous membranes, tightness of the chest, thickening of bronchial secreti urinary frequency and dysuria, palpitation, tachycardia, hypotension/hypertension, fa ness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydriasis, xe stomia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epigastric tress, hyperirritability, nervousness, and insomnia. Overdoses may cause restlessn excitation, delirium, tremors, euphoria, metabolic acidosis, stupor, tachycardia and e convulsions.

DOSAGE AND ADMINISTRATION Adults: 1 or 2 teaspoonfuls, orally, every 4 hours, nc exceed 10 teaspoonfuls in any 24-hour period.

Children 6 to 12 years of age: ½ the adult dose, not to exceed 6 teaspoonfuls in 24-hour period. Children 2 to 6 years of age: ½ teaspoonful every 4 hours, not exceed 3 teaspoonfuls in any 24-hour period. Children under 2 years of age: Use directed by a physician.

HOW SUPPLIED: (16 fl. oz.)

Pint Bottles	NDC 0524-1010

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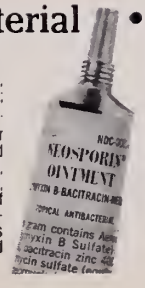


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CONTRAINDICATIONS: Not for use in the eyes or in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

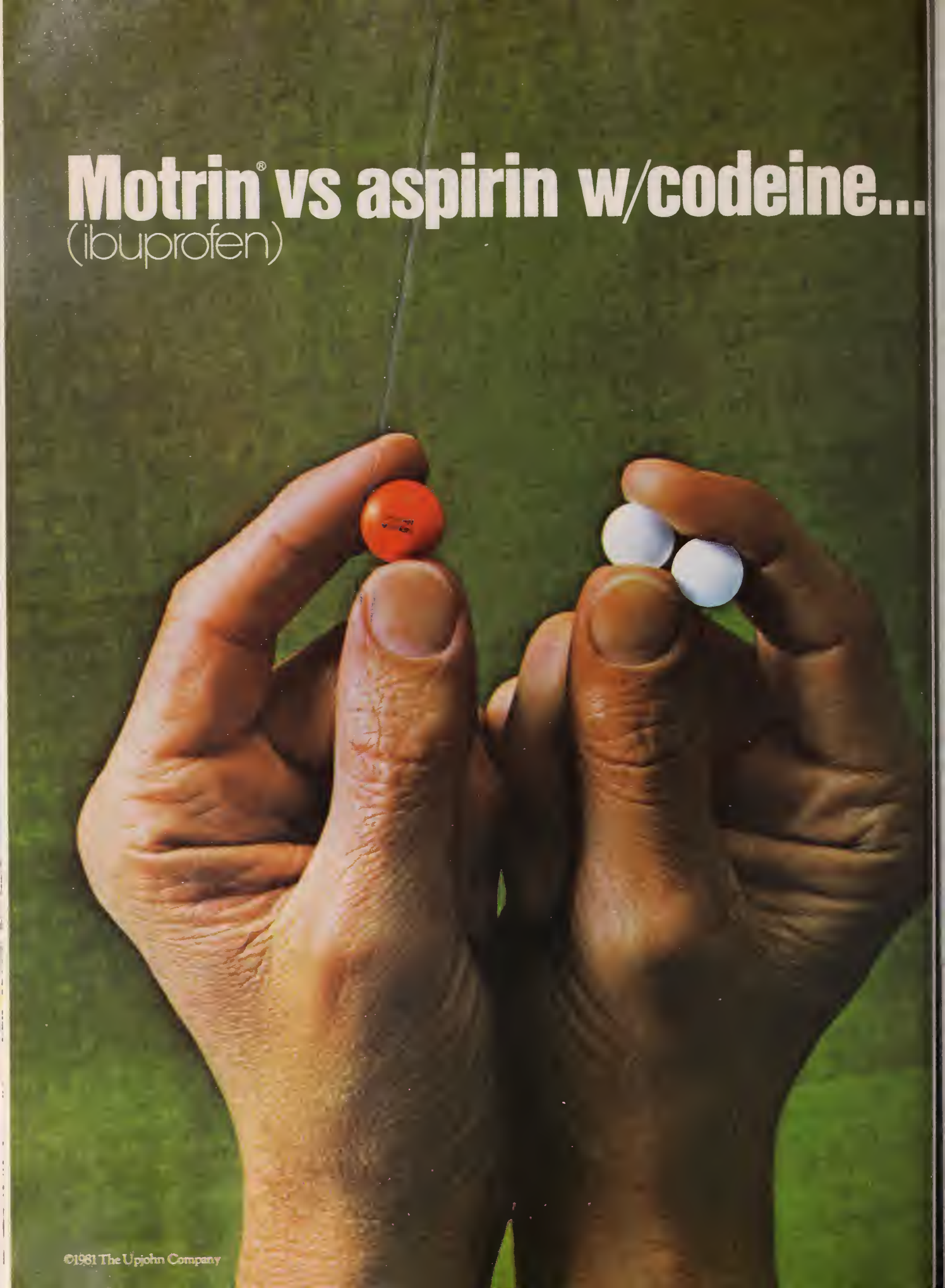
PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

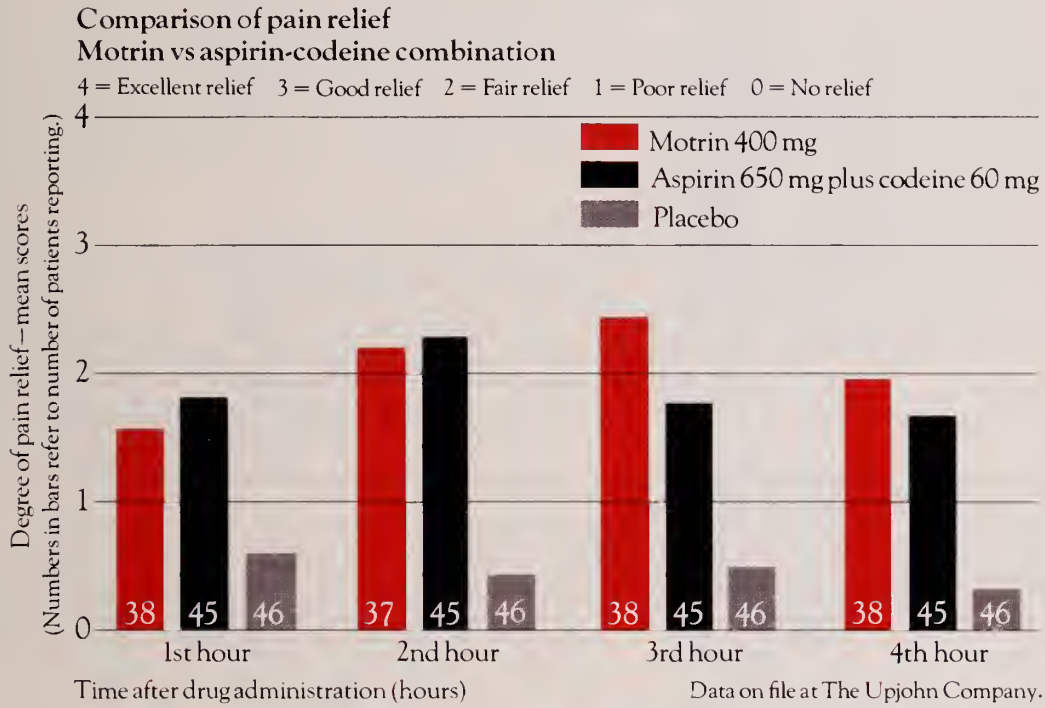
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Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

Drug interactions. *Aspirin:* Used concomitantly may decrease Motrin blood levels. *Coumarin:* Bleeding has been reported in patients taking Motrin and coumarin.

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Adverse Reactions

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*Incidence 3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis, including flares of chronic disease: Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d. Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain.

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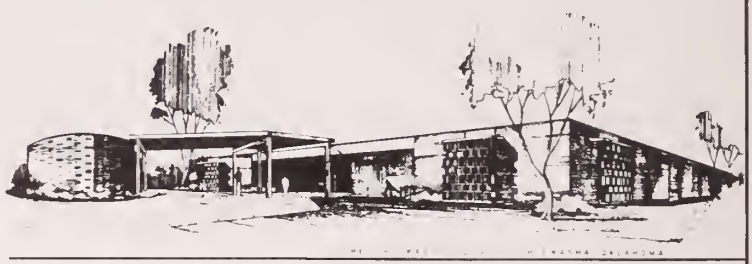
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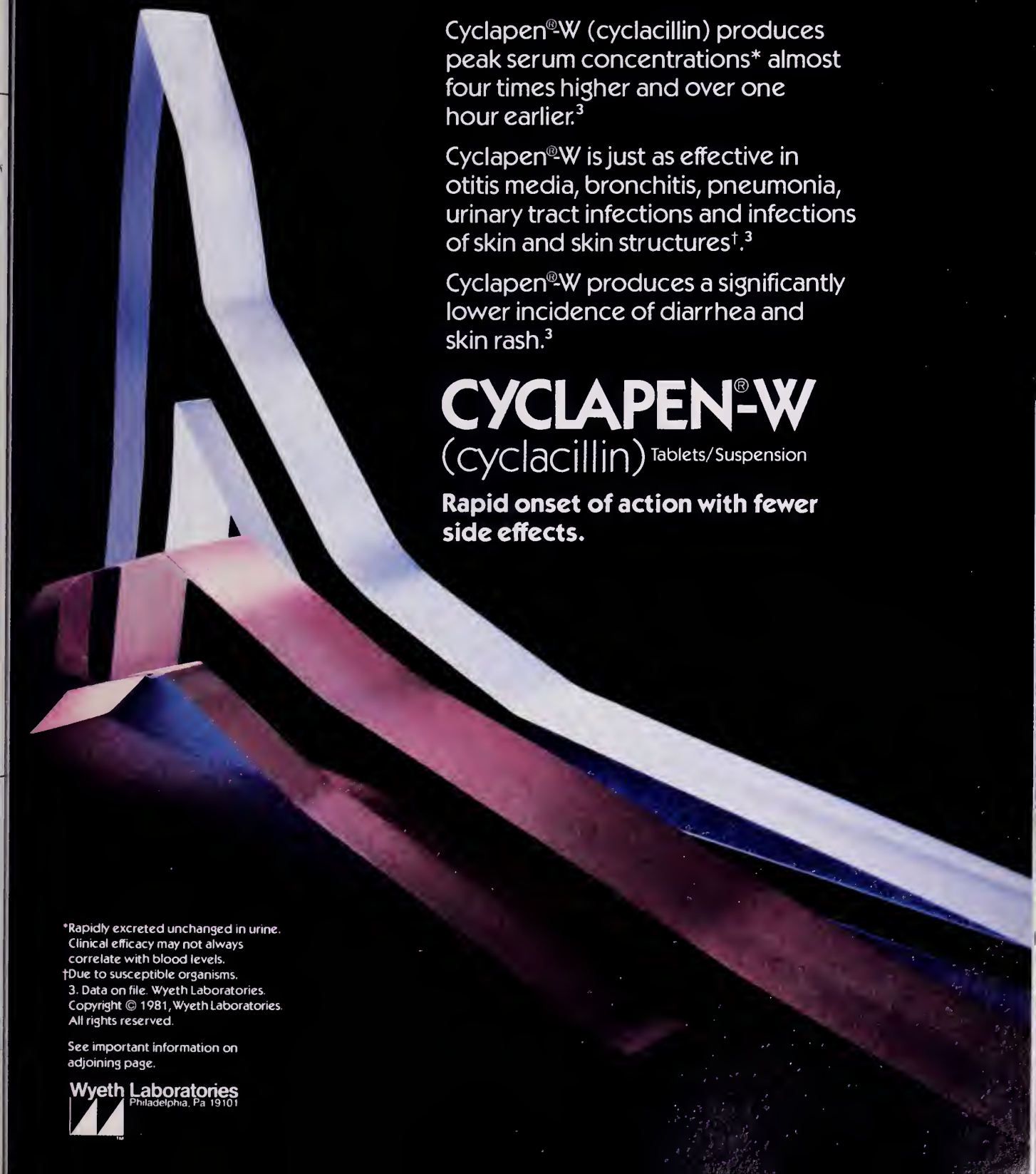
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Rapid onset of action with fewer side effects.

*Rapidly excreted unchanged in urine. Clinical efficacy may not always correlate with blood levels.
†Due to susceptible organisms.
3. Data on file. Wyeth Laboratories.
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See important information on adjoining page.

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†Due to susceptible organisms.

1. Ginsburg CM, McCracken GH Jr, Zweighaft TC, Clahsen JC: Comparative pharmacokinetics of cyclacillin and amoxicillin in infants and children. *Antimicrob Ag Chemother* 19:1086-1088 (June) 1981.

2. Multicenter trials. Data to be published.

See important information on page after next.

Cyclapen®-W (cyclacillin)

Indications
Cyclacillin has less in vitro activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

RESPIRATORY TRACT
Tonsillitis and phoryngitis coused by Group A beto-hemolytic streptococci
Bronchitis and pneumania coused by S. *pneumaniae* (formerly D. *pneumaniae*)
Otitis media coused by S. pneumaniae (formerly D. *pneumoniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis coused by *H. influenzae**
*Though clinicol improvement hos been shown, bacteriologic cures connot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infectians caused by Group A beto-hemolytic streptococci and stophylococci, non-penicillinose producers.

URINARY TRACT INFECTIONS coused by *E. coli* and *P. mirabilis*. (This drug should nat be used in ony *E. cali* and *P. mirabilis* infections ather than urinory tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment ta manitar effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Controindicoted in individuols with history af an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less in vitro activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anophylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics moy promote overgrowth of nonsusceptible organisms. If superinfection accurs, take oppropriate meosures.

PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dase revealed no evidence of impoired fertility or horm to the fetus due to cyclacillin. There are, however, na adequote and well-controlled studies in pregnant women. Becouse onimal reproduction studies are not always predictive af human respanse, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in humon milk. Because many drugs are, exercise cautian when cyclacillin is given to a nursing waman.

Adverse Reactions Oral cyclacillin is generally well talerated. As with ather penicillins, untaward sensitivity reactions ore likely, particularly in those who previously demonstroted penicillin hypersensitivity or with history of allergy, asthma, hay fever, ar urticoria. Adverse reactians reported with cyclacillin: diorrheo (in approximotely 1 out of 20 patients treoted), nouseo and vomiting (in approximotely 1 in 50), and skin rosh (in approximately 1 in 60). Isoloted instonces of headache, dizziness, obdaminal pain, voginitis, and urticoria hove been reported. (See WARNINGS) Other less frequent odverse reactions which may occur and are reported with ather penicillins are anemia, thrombocytapenio, thrombocytapenic purpura, leukapenia, neutropenia and eosinophilio. These reactions ore usually reversible on discontinuotion of therapy.

As with other semisynthetic penicillins, SGOT elevotions hove been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours ofter patient becomes osymptomotic or until bacterial erodication is evidenced. In Group A beto-hemolytic streptococcal infections, at least 10 days' treatment is recammended to guord agoinst risk of rheumotic fever or glomerulonephritis. In chronic urinary tract infectian, frequent bacteriologic and clinicol opproisol is necessory during therapy and possibly for several months ofter. Persistent infection moy require treatment far several weeks.

Cyclacillin is nat indicoted in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renol function. Due to prolonged serum half-life, patients with various degrees of renal impairment moy require change in dasage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Phoryngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Bronchitis ond Pneumania		
Mild ar Moderate Infectians	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chranic Infectians	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

*Dosoge should not result in o dose higher thon thot for odults.
†depending on severity

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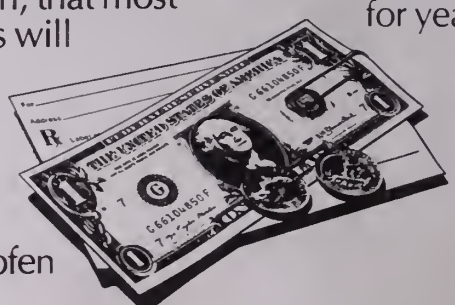
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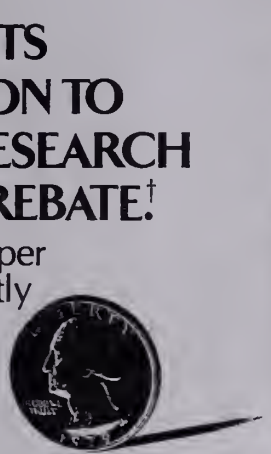
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5/81

RF-009

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(ibuprofen/Boots)

(For full prescribing information, see package brochure.)

RUFEN® Tablets
(ibuprofen)

INDICATIONS AND USAGE: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in the long-term management of these diseases. Safety and effectiveness have not been established for Functional Class IV rheumatoid arthritis.

Relief of mild to moderate pain.

CONTRAINDICATIONS: Patients hypersensitive to ibuprofen, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory drugs (see WARNINGS).

WARNINGS: Anaphylactoid reactions have occurred in patients hypersensitive to aspirin (see CONTRAINDICATIONS). Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration, perforation, or gastrointestinal bleeding can end fatally; however, an association has not been established. Rufen should be given under close supervision to patients with a history of upper gastrointestinal tract disease, and only after consulting the ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be attempted. If Rufen must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

PRECAUTIONS: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If developed, discontinue Rufen and administer an ophthalmologic examination.

Fluid retention and edema have been associated with Rufen; caution should be used in patients with a history of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolong bleeding time. Use with caution in patients with intrinsic coagulation defects and those taking anticoagulants.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy, this therapy should be tapered slowly when adding Rufen.

DRUG INTERACTION: *Coumarin-type anticoagulants.* The physician should be cautious when administering Rufen to patients on anticoagulants.

Aspirin. Concomitant use may decrease Rufen blood levels.

PREGNANCY AND NURSING MOTHERS: Rufen should not be taken during pregnancy nor by nursing mothers.

ADVERSE REACTIONS

Incidence greater than 1%

Gastrointestinal: The most frequent adverse reaction is gastrointestinal (4% to 16%). Includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence). **Central Nervous System:** dizziness*, headache, nervousness. **Dermatologic:** rash* (including maculopapular type), pruritus. **Special Senses:** tinnitus. **Metabolic:** decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

*Incidence 3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: gastric or duodenal ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** depression, insomnia. **Dermatologic:** vesiculobullous eruptions, urticaria, erythema multiforme. **Special Senses:** amblyopia (see PRECAUTIONS). **Hematologic:** leukopenia, decreased hemoglobin and hematocrit. **Cardiovascular:** congestive heart failure in patients with marginal cardiac function, elevated blood pressure.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** paresthesias, hallucinations, dream abnormalities. **Dermatologic:** alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** gynecomastia, hypoglycemia. **Cardiovascular:** arrhythmias (Sinus tachycardia, bradycardia, and palpitations). **Renal:** decreased creatinine clearance, polyuria, azotemia.

OVERDOSAGE: Acute overdosage, the stomach should be emptied. Rufen is acidic and excreted in the urine; alkaline diuresis may benefit.

DOSAGE AND ADMINISTRATION: Rheumatoid arthritis and osteoarthritis, including flareups of chronic disease: Suggested dosage 400 mg t.i.d. or q.i.d.

Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain. Do not exceed 2,400 mg per day.

CAUTION: Federal law prohibits dispensing without prescription.

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The JOURNAL
of the Oklahoma State Medical Association

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Footnotes, bibliographies, and legends for illustrations should be submitted on separate sheets, double-spaced. Bibliographies should follow in order of: name and author, title or article, name of periodical with volume number, page and date of publication. These references should be numbered in the sequence in which they appear in the article.

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NEWS

Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession.

ADVERTISING

All advertising copy must be approved by the Editorial Board before acceptance for publication. General and miscellaneous advertising rates will be sent on request.

EDITING SERVICE

The Editorial Board reserves the prerogative to submit contributions to a Medical Editing Service when warranted. If such is felt necessary, the Editor will contact the author for approval, informing him that there will be a modest charge for this service.

REPRINTS

Authors will receive reprint order forms from the Transcript Press, P.O. Drawer 1058, Norman, Oklahoma 73070, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.

BACK ISSUES

Microfilm copies of back issues of *The Journal* may now be purchased from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

Who Is Prepared and Alert

When Big Brother is no longer there, WHO then, will be there? When medical services provided by our specialists are "piece-mealed out" by the state legislature, WHO among all specialties within the medical family can be heard in their outcry for public safety and awareness? When para-professionals use "Madison Avenue" ads with an apple for a logo (remember that one a day supposedly keeps you know who away), WHO among us is prepared to recognize and address the competition? When office holders attempt to legislate health and other quality of life issues, WHO will offer them direction or support?

The AMA Auxiliary is PREPARED. Readiness and experience varies from county to county, but we are all continually preparing to be there and heard from. Self-study and awareness occurs through informational mailings on studies, issues, legislation pending and implemented that are sent to County Legislative Chairmen (twelve across Oklahoma) or county presidents of auxiliary. A LEGS workshop held at the September state board meeting increased our preparedness. We hope to accomplish further preparedness on February 11th when we meet with state legislators in the governor's mansion. Auxiliary is further prepared for prompt action through its Legislative Alert System (LEGS).

The LEGS Alert System transmits up-to-date information on a health issue to those who join the system and urgently requests their timely personal letter, mailgram or phone call to OKC or DC. We do need many more than the thirty members representing ten counties who joined during two recruitment months. Won't you be on this alert system? Send your name or someone else's to be recruited.

OSMA Auxiliary's Legislative Program stresses county programs to offer further awareness of the Medical Specialties, their services and social/political problems. County officers are also being encouraged and reminded of those ways in which the medical community (through auxiliary) can recognize, channel information and broaden mutually supportive relationships with their local legislators.

Our state medical association knows auxiliary "is there." We are thinking and planning together. Auxiliary's Legislative Chairwoman is a member of the Councils on State Legislation and Governmental Activities. Be further prepared; and JOIN US on LEGS Alert and at the mansion next month by contacting: Veronica (Mrs. J. A.) Montero, 12912 Twisted Oak Road, Oklahoma City 73120 or calling (405) 751-6701, your State Legislative Chairwoman.

COME CELEBRATE OKLAHOMA'S DIAMOND JUBILEE!

Tour, meet legislators, know the issues, and lunch at:

THE GOVERNOR'S MANSION
in Oklahoma City
Auxiliary's Legislative Day on Feb. 11th,
9:30 to 1:30
Today, Reserve this Date and Your Place There
(Due to special location, reservations for lunch [$8.50] will be limited.)

Through a recent House of Delegates resolution, the AMA is urging physicians and health care professionals to consider ways in which they can encourage the use of appropriate child passenger restraining devices and safety belts to protect children in motor vehicles. The resolution also gives AMA's endorsement and support to the American Academy of Pediatrics "First Ride — Safe Ride" program that aims to inform parents of the importance of protecting children in motor vehicles with appropriate restraining systems.

A new form of emergency treatment clinics, sometimes called "emergicenters," has emerged recently to provide treatment for minor emergencies. These clinics aim to siphon off all but the most serious cases from hospital emergency rooms. Operated sometimes by hospitals, sometimes by entrepreneurs, these clinics number about 500, according to the Dallas-based National Association of Freestanding Emergency Centers. The clinics usually charge less than conventional emergency rooms but are open fewer hours and are less versatile.

Oklahoma is experiencing an alarming increase in cases of venereal disease. During 1980 the number of syphilis cases increased by 30 percent, the greatest increase since 1973. Gonorrhea cases have jumped 10 percent over last year among persons 15 to 24 years old. It could be the worst year since 1977, when cases leveled off at a high of 12,700.

Perry A. Lambird, MD, of Oklahoma City, has been elected to serve as 1982 president-elect and member of the board of trustees of the American Pathology Foundation. The foundation is an association of independent practicing pathologists organized in 1959 to promote the private practice of pathology and preserve the independence of pathologists.

The 1982 annual meeting of the American Psychosomatic Society will be held March 25-28, 1982, at the Brown Palace Hotel, Denver, Colorado. The meeting will cover a broad range of topics in the biological and psychiatric aspects of medical illnesses and treatment. For meeting information, contact the American Psychosomatic Society, 265 Nassau Road, Roosevelt, New York 11575, (516) 379-0191.

The Philippine Medical Association of Oklahoma has been formed by a group of 60 Filipino physicians now practicing medicine in Oklahoma. The goals of the new organization are to foster unity and fellowship among members, maintain professional standards, encourage cooperation with the medical profession in Oklahoma, and become involved in social and cultural activities at the local and state levels.

Christian N. Ramsey, MD, head of the Baylor College of Medicine's Family Practice Division at Waco, has been named the new chairman of the Department of Family Practice at the University of Oklahoma Health Sciences Center in Oklahoma City. Since 1977 Dr Ramsey has also served as director of the Baylor College of Medicine Center for Medical Education. He is currently conducting research in the areas of family structure, stress and the outcome of pregnancy. Dr Ramsey's appointment becomes effective March 1, 1982.

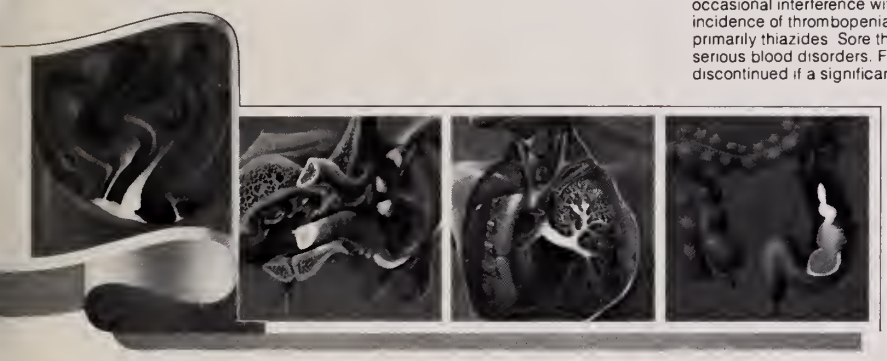
Officials of the HHS Health Care Financing Administration (HCFA) are planning to revise regulations governing Medicare payments to hospital-based physicians. The revisions are necessary because of difficulties encountered in distinguishing between hospital-based physician services that are supervisory and adminsitrative and those that are patient related. Revised regulations are expected to be issued sometime this year.

Tulsa Medical College has received a gift of $5,650 from the University of Oklahoma College of Medicine Alumni Association to purchase a special piece of life-saving equipment. The equipment, a Life-Pak 7 defibrillator and converter, will be placed in the newly opened Roger C. Good Ambulatory Care Center, located on the campus of Tulsa Medical College. The defibrillator and converter device is used in the management of heart attack patients who are experiencing life-threatening changes in their heart rhythms. □

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Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

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Dosage: Not recommended for infants less than two months of age.

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1. Rubin RH, Swartz MN: *N Engl J Med* 303:426-432, Aug 21, 1980. 2. Data on file, Medical Department, Hoffmann-La Roche Inc.

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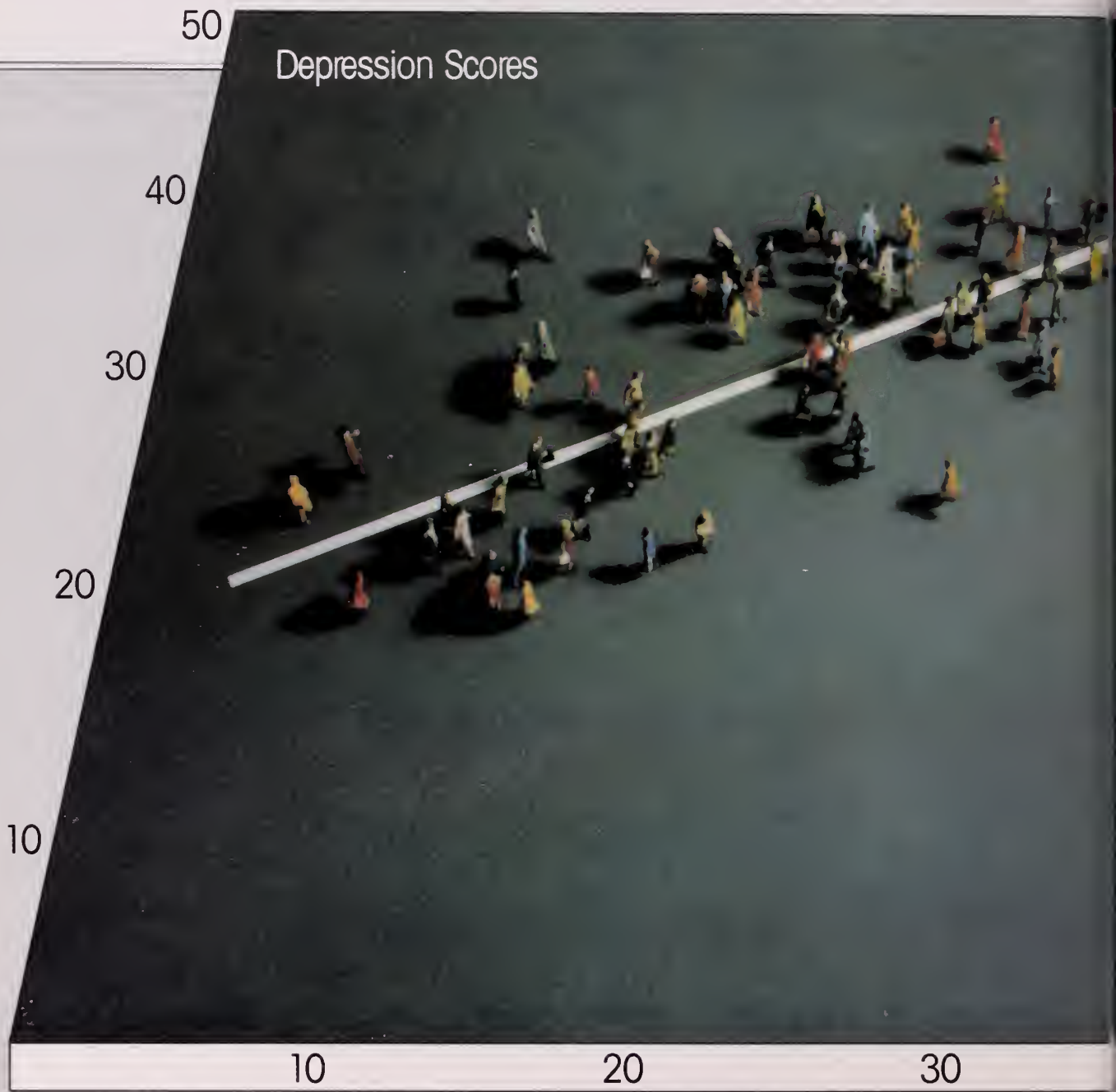
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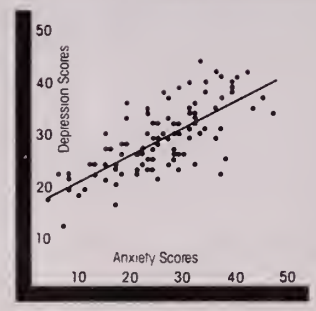
Volume 75 — Number 2 — February 1982

JOURNAL *Oklahoma State Medical Association*



FOR THE 7 OF 10 NONPSYCHOTIC





Clear correlation between anxiety and depression[3]

The above graph illustrates o relationship between anxiety and depression, indicating that patients seldam present with anxiety ar depressian alane; mare aften they hove both in varying degrees. Data based an a sampling af 100 autpatients (64 male; 36 female) seen at a general psychiatric clinic.

[3]Adapted from Claghorn, J. The anxiety-depression syndrame. *Psychosomatics 11*:438-441, Sept-Oct 1970.

ROCHE

EPRESSED PATIENTS WHO ARE ALSO ANXIOUS[1,2]

Most depressed patients are also anxious...

Some authors estimate that 70% of all nonpsychotic patients with symptoms of depression have concomitant symptoms of anxiety.[1,2] One author found a distinct correlation between anxiety and depression scores in 100 nonpsychotic outpatients administered the Minnesota Multiphasic Personality Inventory in a general psychiatric clinic.[3] As depression scores increased, so did anxiety scores. No attempt was made to select patients other than to exclude psychotics.

but not psychotic

The logic of treating both components of anxious depression is clear. Antipsychotics, like the phenothiazines, however, carry a well-documented risk of tardive dyskinesia.[4] Because of this, an APA Task Force recently recommended the judicious use of phenothiazines in cases other than chronic psychosis or the use of alternative treatments.

A better way to give relief

Limbitrol combines the specific anxiolytic action of Librium® (chlordiazepoxide HCl/Roche)—a benzodiazepine with a long history of safe use—with the antidepressant action of amitriptyline, a tricyclic of established clinical efficacy. In comparison to phenothiazines, Limbitrol and its components have rarely been associated with tardive dyskinesia or other extrapyramidal side effects. And in terms of rapid response and patient compliance, Limbitrol appears to be superior to amitriptyline alone. Controlled multiclinic studies showed Limbitrol relieved more symptoms more rapidly than did amitriptyline.[5] Despite a higher incidence of drowsiness, the dropout rate due to side effects was lower with Limbitrol. (See adverse reactions section in summary of product information on next page. As with any CNS-acting agent, patients should be cautioned about driving or using dangerous machines while on therapy with Limbitrol.)

References: 1. Rickels K: Drug treatment of anxiety, in *Psychopharmacology in the Practice of Medicine,* ed. Jarvik ME. New York, Appleton-Century-Crofts, 1977, p. 316. **2.** Schatzberg AF, Cole JO: Benzodiazepines in depressive disorders. *Arch Gen Psychiatry 35*:1359-1365, 1978. **3.** Cloghorn J: The anxiety-depression syndrome. *Psychosomatics 11*:438-441, 1970. **4.** The Task Force on Late Neurological Effects of Antipsychotic Drugs: Tardive dyskinesia, summary of a task force report of the American Psychiatric Association. *Am J Psychiatry 137*:1163-1172, 1980. **5.** Feighner JP *et al*: A placebo-controlled multicenter trial of Limbitrol versus its components (amitriptyline and chlordiazepoxide) in the symptomatic treatment of depressive illness. *Psychopharmacology 61*:217-225, 1979.

Anxiety Scores

50

In moderate depression and anxiety

Limbitrol® IV

Tablets 5-12.5 each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)
Tablets 10-25 each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt)

Relief without a phenothiazine

Please see summary of product information on next page.

LIMBITROL® TABLETS Tranquilizer–Antidepressant
Before prescribing, please consult complete product information, a summary of which follows:
Indications: Relief of moderate to severe depression associated with moderate to severe anxiety.
Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.
Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).
***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**
Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage. Withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).
Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12.
In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.
Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.
The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs.
Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.
Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.
Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.
Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.
Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.
Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.
Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.
Endocrine: Testicular swelling and gynecomastia in the male; breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.
Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.
Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. I.V. administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.
Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly. Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.
How Supplied: White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50.

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The Journal of the Oklahoma State Medical Association (USPS 285-000)

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Oklahoma State Medical Association

FEBRUARY 1982 Vol. 75, No. 2

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EPRESSED PATIENTS WHO ARE ALSO ANXIOUS[1,2]

Most depressed patients are also anxious...

Some authors estimate that 70% of all nonpsychotic patients with symptoms of depression have concomitant symptoms of anxiety.[1,2] One author found a distinct correlation between anxiety and depression scores in 100 nonpsychotic outpatients administered the Minnesota Multiphasic Personality Inventory in a general psychiatric clinic.[3] As depression scores increased, so did anxiety scores. No attempt was made to select patients other than to exclude psychotics.

but not psychotic

The logic of treating both components of anxious depression is clear. Antipsychotics, like the phenothiozines, however, carry a well-documented risk of tardive dyskinesia.[4] Because of this, an APA Task Force recently recommended the judicious use of phenothiazines in cases other than chronic psychosis or the use of alternative treatments.

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Anxiety Scores

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In moderate depression and anxiety

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Relief without a phenothiazine

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Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.
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Tablets

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CONTRAINDICATIONS Hypersensitivity to antihistamines or sympathomimetics. Ru-Tuss Tablets are contraindicated in children under 12 years of age and in patients with glaucoma, bronchial asthma and women who are pregnant. Concomitant use of MAO inhibitors is contraindicated

WARNINGS Ru-Tuss Tablets may cause drowsiness. Patients should be warned of the possible additive effects caused by taking antihistamines with alcohol, hypnotics, sedatives or tranquilizers

PRECAUTIONS Ru-Tuss Tablets contain belladonna alkaloids, and must be administered with care to those patients with glaucoma, or urinary bladder neck obstruction. Caution should be exercised when Ru-Tuss Tablets are given to patients with hypertension, cardiac or peripheral vascular disease or hyperthyroidism. Patients should avoid driving a motor vehicle or operating dangerous machinery (See Warnings).

OVERDOSAGE Since the action of sustained release products may continue far as long as 12 hours, treatment of overdoses directed at reversing the effects of the drug and supporting the patient should be maintained for at least that length of time. Saline cathartics are useful for hastening evacuation of unreleased medication. In children and infants, antihistamine overdosage may produce convulsions and death.

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Pyrilamine Maleate	
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PRECAUTIONS Patients taking Ru-Tuss Expectorant should avoid driving a motor veh operating dangerous machinery (See Warnings). Caution should be taken with pa having hypertension, diabetes, hyperthyroidism and cardiovascular disease.

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ADVERSE REACTIONS Ru-Tuss Expectorant may cause drowsiness, lassitude, gidd dryness of mucous membranes, tightness of the chest, thickening of bronchial secr urinary frequency and dysuria, palpitation, tachycardia, hypotension hypertension ness, dizziness, tinnitus, headache, incoordination, visual disturbances, mydriasis, stomia, blurred vision, anorexia, nausea, vomiting, diarrhea, constipation, epigastr tress, hyperirritability, nervousness, and insomnia. Overdoses may cause restles excitation, delirium, tremors, euphoria, metabolic acidosis, stupor, tachycardia and convulsions.

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The Surprise That Isn't

Surprise, surprise! Health care costs are soaring. In the past year Medicare costs have risen sharply with umpteen percent increase in payments to physicians, hospitals and drug vendors. As a nation, we are spending more for health care than any nation on earth or in history. At the present rate of climb, the costs of Medicare and Medicaid programs will bankrupt our federal and state governments. This shocking and thoroughly unexpected turn of events justifies — even mandates — the enactment of immediate and stringent cost-control measures. The options relating to the selection of such measures are limited, of course. There can be a freeze on payments to the providers of services or there can be severe restrictions on eligibility for participation in such programs. It is not difficult to guess which of these options is politically popular and — as we say in Jargonia — "viable."

Rest assured, when the decision is made, it will be the result of simple process. It will be unstudied, abrupt and unfair. Little if any notice will be taken of such issues as physicians' net incomes, hospitals' profits and losses or drug-development and marketing costs. More significantly, the costs of administering and policing the programs themselves will not be considered for the simple reason that they are not known. Furthermore, they would never be publicized if they were, through some improbable circumstance, determined. Such revelations are unpopular in the bureaucracy; heretical in the media. After all, the intimation that administrative costs are a major factor in the rising price of health care is neither documented nor cited in any of the public bellowing about the problem. We are allowed if not encouraged to believe that pure greed on the part of physicians, hospitals and the pharmaceutical industry is wrecking the wisely conceived, efficiently administered and fiscally sound Medicare/Medicaid programs.

Just once, it would be refreshing to see a best-estimate of the total cost of administering these programs publicized, together with a year-by-year tally of their increases. Then, perhaps, we would have a more accurate understanding of what should be frozen and what should be capped. Then, we could all be surprised.

As it is, there are no real surprises. The crazy spiral of Medicare costs was foreseen and predicted years ago. It was clearly demonstrated in other nations decades before we undertook such ventures.

Surprise! There are no surprises. *MRJ*



The key issues considered by the AMA House of Delegates at the December Interim Meeting in Las Vegas affect both the medical profession as a whole and each of us individually as practicing physicians. I would like to take this opportunity to highlight some of those issues and to invite your comments and inquiries about them.

The AMA Council on Scientific Affairs submitted reports on issues of general interest to physicians and to the public. Chief among them was a report calling for improved care for homosexual patients. It concludes that nonjudgmental recognition of sexual orientation enhances the physician's ability to provide optimal patient care in health as well as in illness. Other scientific reports dealt with the establishment of guidelines for estrogen replacement in menopausal women, the causative factors of depression, especially among women, and the progress in DMSO research.

On the subject of health care coalitions, the House endorsed a statement by six national organizations encouraging the development of voluntary health care coalitions. The statement urges local coalitions to analyze resources and develop projects to seek solutions to health care problems. This action has significant implications for the medical profession. These coalitions represent a continuation of the AMA corporate liaison activity begun three years ago. Other participating organizations include the American Hospital Association, Blue Cross and Blue Shield, the Business Roundtable, the Health Insurance Association of America, and the AFL-CIO.

The House of Delegates received two comprehensive reports on "pro-competition/consumer choice" health care proposals being considered by the Administration and Congress. In adopting the reports, the House renewed AMA's strong concern that such legislation be monitored carefully to assure the continued strength of the existing system of free enterprise medicine.

Voluntary peer review was another issue considered by the House. Delegates reaffirmed medicine's continuing commitment to the development and maintenance of voluntary, professionally directed peer review. In a related action, the House adopted a set of principles for voluntary peer review. Their objective is to assure the quality and appropriateness of medical services.

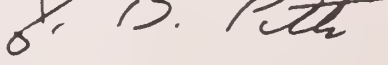
In the area of continuing medical education, the House adopted tighter standards for CME accreditation. Final approval was withheld until the House has an opportunity to review the handbook that will be used to implement the standards.

Another issue that is receiving increased national attention from both the medical profession and the public deals with the aftermath of nuclear war. The House of Delegates adopted a board report recommending the AMA inform the President and the Congress of the medical consequences of nuclear war. The action also directed the AMA to educate physicians and the public on the issue.

In other actions, the House of Delegates:

- endorsed model legislation to ban the manufacture, sale, and distribution of "look-alike" drugs.
- opposed proficiency testing programs by the Secretary of Health and Human Services to determine the qualifications of clinical laboratory and other health care personnel
- called for continued monitoring of federal regulations affecting the practice of nuclear medicine
- supported legislation to delete the three-day prior hospitalization requirement for providing extended care facility benefits under Medicare
- opposed federal intervention into physicians' prescribing practices
- encouraged further scientific studies on the effects of acid precipitation
- supported adequate funding of biomedical, behavioral, and clinical research activities
- adopted a policy emphasizing the right of hospitalized patients to choose their own physicians
- requested further study of the issue of competition between hospitals and physicians.

As you can see, the issues taken up at the Interim Meeting were as numerous as they were diverse. Because they affect us both as physicians and as citizens, it is essential that you let OSMA's leadership know what your views are about these and other issues. Our job is to represent you, but to do so properly, we need your help. Communication is a two-way street, and half of that street belongs to you.



OSMA JOURNAL / scientific

Hydrogen Sulfide Poisoning Report of Four Cases and Brief Review of the Literature

JERRY B. VANNATTA, MD

Presented are four patients who suffered hydrogen sulfide (H_2S) poisoning. This unexpected and unusual accident occurred in an industrial setting. All patients were treated on an emergency basis with intravenous and inhaled nitrites, and all survived. Included is a discussion of the pathophysiology of this problem and the rationale for its therapy.

INTRODUCTION

Hydrogen sulfide (H_2S) poisoning has been known to industry for many years. It is well known to the oil and gas industry as a highly lethal occupational hazard. Coincident with the increase in oil and gas exploration in Oklahoma over the past five years, we might expect exposure to this potentially lethal gas to increase.

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Recent evidence in laboratory animals shows that treatment with nitrites is effective in H_2S poisoning. A heightened awareness among the medical profession in areas of high risk is warranted, and might be provided at least partially by this case report and brief literature review.

CASE REPORTS

On February 6, 1981, an accident occurred at an oil refinery in south central Oklahoma which exposed four employees to high concentrations of H_2S gas.

A propane tank, used to store finished product, was taken out of service for cleaning because it was thought to be contaminated with hydrofluoric acid. The tank was isolated, steamed, and washed for several days. Safety engineers tested the tank for H_2S gas prior to sending the workers into the tank. The atmosphere inside the tank was negative for H_2S and an oximeter recorded 20.5% O_2. Therefore, three employees were sent into the tank without fresh air breathing apparatus because it was felt unnecessary. They were scraping sludge off the bottom of the tank from one end to the other. After working approximately 15 minutes, one employee remarked that he tasted something odd and suggested they leave

the tank immediately. One employee got out of the tank, but the other two lost consciousness and fell to the bottom. An employee, stationed outside the tank for safety reasons, climbed into the tank to attempt a rescue. He was not wearing breathing apparatus, was rapidly overcome, and lost consciousness. Shortly thereafter a safety engineer made an attempt to rescue the three employees. He was overcome by the gas and lost consciousness. Finally, a rescuer with fresh air pack made a successful rescue. All four victims were unconscious, and basic cardiopulmonary resuscitation (CPR) was begun. Only one victim, number 4 in Table 1, was felt to be in cardiopulmonary arrest at the site. All victims were immediately transferred to the emergency room where they were treated with nasal oxygen, amyl nitrite by inhalation and sodium nitrite intravenously. They each also received one amp of sodium bicarbonate intravenously. Victim #4 required intubation and was noted to have pulmonary edema. All four had severe metabolic acidosis, as noted in Table 1. After stabilization they were transferred to Oklahoma City and admitted to intensive care units. Victims 1, 2, and 3 all had normalized acid-base status by the time they were admitted. Victim #4 still had an anion gap of 20. (Table 2)

Also of interest is that serum CPK, LDH, and SGOT were elevated in three of the four victims. This is thought to be a result of skeletal muscle necrosis as the CPK isoenzyme determination yielded 100% skeletal muscle fraction. Even in the face of these elevated enzymes, myoglobin was not detected in the serum or urine of patients 1, 2, or 3. Myoglobin was not measured in patient 4.

Methemoglobin levels, as shown in Table 2, were elevated in patients 1, 2, and 3. It was not measured in patient 4. This elevation of serum methemoglobin is a reflection of the nitrite therapy received in the emergency room.

Victims 1, 2, and 3 were conscious and oriented within ten hours of the accident. Victim 4 was unconscious for 48 hours, but upon regaining consciousness was oriented and alert. His pulmonary edema resolved, and he was discharged on the fifth hospital day. Victims 1, 2, and 3 are currently back at work with no known sequelae, and victim 4 is still off work with some problems relating to headache and nervousness, but no evidence of serious neurologic sequelae.

Table 1

ADMISSION TO EMERGENCY ROOM (10:00 AM)
(45 Minutes after Exposure)

Patient	1	2	3	4
Arterial pH	7.09	7.20	7.20	7.18
Anion Gap	28	26	24	24

Table 2

ADMISSION TO
INTENSIVE CARE UNIT (1:30 PM)

Patient	1	2	3	4
Arterial pH	7.35	7.42	7.42	7.43
Anion Gap	15	14	16	20
CPK (35-232 IU/L)	702	7,480	3,600	101
LDH (80-190 IU/L)	186	418	458	86
SGOT (8-33 IU/L)	54	238	87	23
Myoglobin	neg	neg	neg	NM*
Methemoglobin (<1.5 gm%)	2.2	2.6	2.6	NM*

* Not Measured

Subsequent to the transfer of these employees to the hospital, plant safety engineers re-examined the tank for H_2S gas and 200 ppm were detected. They found this a very curious problem. A sample of the sludge from the tank was collected in a tight container. Several hours later the lid was removed and the air just above the container tested for H_2S. It was negative (0 ppm). Then the sludge was stirred and retested. The air above the container contained 100 ppm H_2S. The sludge was analyzed and found to contain the following:

pH — 4.5
Iron (Fe) — 3.0%
Potassium (K) — 19.3%
Sulfur (S) — 16.3%

It is felt that the acid was mixed by the workmen with potassium sulfide and iron sulfide, thereby releasing H_2S gas.

DISCUSSION

Hydrogen sulfide poisoning occurs in many industries. Among them are: mining, tanning, rubber vulcanizing, rayon production, glue and felt production, and sewer work. The term "sewer gas" refers to the commonly recognized rotten egg smell encountered around sewers.

Hydrogen sulfide gas results from the incomplete oxidation of sulfur containing protein. It is also released when earth metal sulfides are exposed to an acid in solution. This is what is believed to have happened in this case.

The clinical manifestations of H_2S exposure are dose related. At low concentration (0.3 ppm of air by volume), it simply has the noxious odor of rotten eggs or sewer gas. At 20-30 ppm the odor is intense but not intolerable. 150 ppm is associated with olfactory paralysis, and at 200 ppm, with pulmonary edema. If the exposure is prolonged or the concentration high, it can be fatal. At levels of 600-700 ppm rapid collapse occurs, and above 700 ppm, cessation of respiration which is rapidly fatal.[1]

It is quite difficult to study the pathophysiologic effects of a poison such as H_2S. In most case reports, the sequence of events is so rapid that pathophysiologic data are nearly nonexistent.

However, a review of some of the clinical experience is instructive. It is commonly reported that the two most important factors in determining clinical severity are: 1) concentration of the gas, and 2) time of exposure. Exposure to a high vapor concentration, eg, 1000 ppm can lead to abrupt loss of consciousness, and prompt removal can lead to an equally abrupt recovery of consciousness. (However, exposure to this high concentration for a few minutes can lead to death.) It is helpful to view H_2S toxicity as having two components pathophysiologically:

1) Local irritation
2) Subcellular toxicity

Local irritation leads to many of the immediate symptoms which have been reported by Bennett,[3] *et al.* They reported 221 cases of H_2S toxicity among workers in the oil and gas industry in Canada. Loss of consciousness was reported in 74%, dysequilibrium in 17%, nausea and vomiting in 13% and other symptoms included headache, cough, conjunctivitis, weakness, dyspnea, and convulsions. Pulmonary edema was noted in 20%.

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Evidence for the subcellular pathophysiology of H_2S was provided in 1975 by Nichols.[2] He demonstrated that H_2S inhibits cytochrome oxidase, the terminal enzyme in the mitochrondrial electron transport system. This, in turn, inhibits oxidative phosphorylation and therefore aerobic metabolism of energy substrate. Thus, tissue anoxia ensues, rendering the victim severely acidotic.

RATIONALE FOR TREATMENT

It has been known for some time that cyanide is an anion toxic to cytochrome oxidase, and that nitrites, as strong reducing agents, are successful in its therapy. Therefore, since H_2S inhibits cytochrome oxidase, it was thought that nitrites might also have efficacy in the treatment of H_2S poisoning. Smith, *et al*[4] have demonstrated in a variety of animal species that nitrites are protective against sulfide poisoning. Smith, *et al* have also shown[5-7] that the mechanism for this protective effect is the generation of methemoglobin which avidly binds circulating sulfide, thereby producing sulfmethoglobin, and protecting cytochrome oxidase from further inhibition. It has been shown that this sulfmethemoglobin spontaneously oxidizes to water and oxides of sulfur which are presumably nontoxic. Stine,[8] *et al* have reported a case which was successfully treated with nitrites and recommends its use in sulfide toxicity.

It should be pointed out that the pigment known as sulfhemoglobin, commonly found in low concentration in humans, is in no way associated with sulfide toxicity. Exposure to sulfide does not produce sulfhemoglobin. Sulfide will bind to methemoglobin and that is the rationale for treatment with nitrites.

Following are specific recommendations for therapy:

1. Immediately remove the victims from H_2S environment.
2. CPR for all victims who are not breathing spontaneously.
3. Oxygen by external apparatus — because of the high incidence of pulmonary edema and respiratory arrest.
4. Amyl nitrite by inhalation 15-30 seconds of each minute for those not requiring CPR. If CPR is required, it should not be interrupted for nitrite inhalations.
5. Sodium nitrite, 10 cc of a 3% solution injected intravenously over a two-to-four minute period.

SUMMARY

Presented are four patients, all victims of H_2S poisoning. They were poisoned in an industrial accident which was unusual and unexpected. All developed severe metabolic acidosis, all received nitrite therapy, and all lived. The awareness level for this industrial hazard and its treatment should be high in the rural areas of the state of Oklahoma and other oil-producing states where exposure potential is high.

BIBLIOGRAPHY

1. Milby TH: Hydrogen Sulfide Intoxication. *J. of Occ. Med.* 4:431-37, 1962.
2. Nicholls P: The effect of sulfide on cytochrome 223 isoteric and allosteric shifts of the reduced a-peak. *Biochem. Biophs. Actu.* 396:24-25, 1975.
3. Burnett WW, King EG, Grace M, *et al:* Hydrogen sulfide poisoning: review of 5 years experience. *Can. Med. J.* 117:1277-80, 1977.
4. Smith, RP, Kruoszyna R, Kruszyna H: Management of acute sulfide poisoning. *Arch. of Environ. Health* 31:166-69, 1976.
5. Smith RP, GOSSELIN RE: The influence of methemoglobinemia on the lethality of some toxic anions: II Sulfide. *Toxicol. Appl. Phormocol.* 6:584-92, 1964.
5. Smith RP, Gosselin RE: On the mechanism of sulfide inactivation by methemoglobin. *Toxicol. Appl. Pharmacol.* 8:159-72, 1966.
7. Smith RP: The oxygen and sulfide binding characteristics of hemoglobins generated from methemoglobin by two erythrocyte systems. *Mol. Pharmacol.* 3:378-85, 1967.
8. Stine, RJ, Slosberg B, Beacham BE: Hydrogen sulfide intoxication, A case report and discussion of treatment. *Ann. Int. Med.* 85:756-58, 1976.

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Seminar on Antibiotics IX
Sulfonamide Compounds

EVERETT R. RHOADES, MD

Sulmonamide preparations continue to be useful antimicrobials used for a wide range of infections. Recent developments include a combination with trimethoprim with even wider application.

INTRODUCTION

The term "antibiotic" denotes a compound derived from living agents capable of destroying microorganisms. Sulfonamides, therefore, are not actually "antibiotics" but this artificial distinction has less importance today and sulfonamides are ordinarily included in discussions of antibiotics.

MECHANISM OF ACTION

Sulfonamides act at an intracellular site different from all the previously described antimicrobics in this series. Sulfonamides are analogues of para-amino benzoic acid (PABA) and as such they inhibit folic acid synthesis by competing for dihydrofolic acid synthetase. Selective toxicity is achieved by virtue of the fact that certain bacterial cells, in contrast to mammalian cells, are impermeable to entry of folic acid, and they must therefore synthesize folic acid from PABA. Organisms which do not synthesize folic acid are not susceptible to sulfonamides. The effects of sulfonamides tend to be "static" rather than "cidal."

PHARMACOLOGIC PROPERTIES

Many sulfonamides, such as sulfanilamide, sulfacetamide, and sulfadiazine are readily absorped from the intestinal tract, metabolized in the liver, and excreted by the kidneys. Other sulfas, such as sulfamethoxazole are readily absorped but are more slowly excreted so may be given at longer dosage intervals. Still others, such as sylfamethoxypyridazine and sulfadimethoxine are even more slowly excreted and may be given once daily. Urine solubility is increased by alkalinization. Sulfonamides readily penetrate body fluids and tissues.

ANTIMICROBIAL SPECTRUM AND CLINICAL USE

The antimicrobial spectrum of sulfonamides is basically the same for all members of the group. Some, such as sulfadiazine and sulfasoxazole, are more soluble in urine and tend to be favored for treatment of urinary tract in-

fections, as is a combination of sulfonamides. Sulfonamides are effective against a wide range of gram-positive organisms with the notable exception of *Streptococcus fecalis*. Enterobacteriaceae tend to be more or less uniformly susceptible, as are many other gram-negative bacteria. The development of resistance by certain strains of *Neisseria meningitidis* has resulted in the virtual abandonment of sulfas in the treatment of meningococcal disease.

Sulfonamides are most widely employed presently in the therapy of urinary tract infections, and remain relatively inexpensive agents when compared to other antimicrobials used for such purpose. They have been employed for years as alternative prophylaxis of rheumatic fever in persons allergic to penicillin. Sulfonamides were once widely employed for the treatment of shigellosis but because of resistance, are not presently used for this. A major indication for sulfonamides is infection caused by chlamydia. Nocardiosis, a relatively rare infection, responds well to prolonged courses of sulfonamides. Sulfonamides are often combined with pyrimethamine in the treatment of acquired toxoplasmosis. Certain sulfonamides such as sulfapyridine are useful in ulcerative colitis. Finally, topical sulfamylon and silver sulfadiazine are used in the management of burns. Other topical uses include treatment of conjunctivitis with ophthalmic preparations, and treatment of vaginitis. It should be remembered that topical treatment carries a greater risk of sensitization.

PREPARATIONS OF SULFONAMIDES

A great number of sulfonamide preparations are available for topical, oral, and intravenous use. In addition, a variety of mixtures of sulfonamides are available. Azo Gantanol® and Azo Gantrisin® are combinations of sulfa with a urinary tract analgesic. Some special preparations and situations in which sulfonamides may be useful are shown in Table 1.

ADVERSE REACTIONS TO SULFONAMIDES

Many adverse reactions have been associated with sulfonamide use. These include agranulocytosis, aplastic anemia, throm-

Table 1

SULFONAMIDES — SOME
SPECIAL PREPARATIONS AND SITUATIONS

Sulfonamide Preparation	Use
Topical	
Sulfacetamide	ophthalmologic and skin, but not wounds
Mafenide (Sulfamylon)	wounds including burns
Silver Sulfadiazine (Silvadene)	burns
Triple Sulfa Cream (Sultrin)	vaginitis
Sulfisoxazole Diolamine	vaginitis
Gastrointestinal Disorders	
phthalyl Sulfathiazole (Sulfathalidine)	bowel "prep"
Sulfasalazine (Azulfidine)	ulcerative colitis ulcerative colitis
Intermediate-Acting	
Sulfamethoxazole (Gantanol)	longer acting. Used in combination with trimethoprim
Skin Conditions	
Sulfapyridine	dermatitis herpetiformis
Long-Acting	
Sulfamethoxypyridazine (Midicel)	urinary tract infections

NOTE: The occasional use of trade names does not imply an endorsement of any preparation and are merely listed as guides. Other companies may manufacture the same or similar products.

bocytopenia, and hemolytic anemia. A number of hypersensitivity phenomena may occur including erythema multiforme, generalized rash, serum sickness, and exfoliative dermatitis. Crystalluria and hematuria may be seen. Rarely, periarteritis or lupus may be encountered. If possible, sulfonamides should be avoided during pregnancy. Long-acting sulfonamides have been associated with Stevens-Johnson syndrome, a rare but occasionally fatal condition.

TRIMETHOPRIM-SULFONAMIDE COMBINATIONS

Trimethoprim, synthesized in 1956, is related to the antiparasitic compound pyrimethamine but possesses antibacterial activity as well. Trimethoprim is synergistic with sulfonamides because of a blocking action of purine metabolism exerted at a point just after that blocked by sulfonamides. For pharmacologic reasons trimethoprim is combined with sulfamethoxazole in a ratio of sulfa-to-trimethoprim of 5:1. The generic name given to the combination is co-trimoxazole. It is available either as Septra® (Burroughs Wellcome) or Bactrim® (Roche). "Double strength" units are also available.

SPECTRUM OF ACTIVITY AND CLINICAL USE

A wide range of bacteria are inhibited, including many gram-positive cocci, and most of the enterobacteriaceae including salmonella and shigella. Yersinia are sensitive as are strains of *Hemophilus influenza,* including latter strains which may be resistant to ampicillin. Nocardial infections may respond. Most anaerobes do not appear to be inhibited by clinically achievable concentrations of co-trimoxazole. Resistance to trimethoprim and sulfonamides has been reported but the level of resistance to the combination does not appear to be increasing.

Table 2
CLINICAL USES OF CO-TRIMOXAZOLE

Urinary tract infections
Gram-negative infections (often combined with polymyxin for "resistant" organisms)
Bronchitis and pneumonia
Staphylococcal and streptococcal infection
Gonorrhea
Salmonella infections including typhoid
Shigellosis
Cholera
Nocardiosis
Toxoplasmosis
Pneumocystis infection
Otitis media

Co-trimoxazole usually is given orally at 12-hour intervals. Both ingredients are excreted by both renal and non-renal mechanisms. In patients with mild to moderate renal dysfunction the dose need not be altered. An intravenous form is available. Co-trimoxazole is readily distributed throughout the body with good tissue penetration, including sputum and cerebrospinal fluid.

SIDE EFFECTS

The commonest side effects include mild gastrointestinal distress, folate deficiency (anemia), nephrotoxicity, and hypersensitivity reactions. The drug should not be used during pregnancy.

TRIMETHROPRIM

Trimethoprim is available as Trimpex® (Roche) or Proloprim® (Burroughs-Wellcome). It is useful in the treatment of urinary tract infections except when pseudomonas is the causative organism. The usual dose is 100 mg (one tablet) every 12 hours. The usual duration of therapy is ten days. The same precautions apply as for co-trimoxazole.

Everett R. Rhoades, MD, was graduated from the University of Oklahoma College of Medicine and is a Diplomate of the American Board of Internal Medicine. He recently resigned as professor of medicine and adjunct associate professor of microbiology at the University of Oklahoma Health Sciences Center and is now director of the Indian Health Service in Bethesda, Maryland. He is a Fellow of the American College of Physicians, a member of the Infectious Diseases Society of America, American Society for Microbiology and American Federation for Clinical Research.

REFERENCES

1. Rubin, R. H. and Swartz, M. N. Trimethoprim-Sulfamethoxazole. *New Engl Jour Med* 303:426-432, 1980.
2. Kucers, A. and Bennett, N. McK. The Use of Antibiotics. 3rd ed. William Heineman Medical Books Ltd. London pp. 687-729, 1979.
3. Medical Letter on Drugs and Therapeutics. Uses and Toxicity of Antimicrobial Sulfonamides. **Vol 7,** No. 16. July 30, 1965.
4. Medical Letter on Drugs and Therapeutics. Warning Against Prolonged-action Sulfonamides. **Vol. 8,** No. 4, Feb. 25, 1966.
5. Zinner, S. H. Sulfonamides and Trimethoprim. Chapt. 22, in Mandell, G. L., Douglas, R. G., Jr. and Bennett, J. E. (eds.). Principles and Practice of Infectious Diseases. John Wiley and Sons. New York. 1979. pp. 308-315.

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Medicine at Fort Sill, Indian Territory 1875 - 1880

EVERETT R. RHOADES, MD

The medical history of "old" Ft. Sill provides a unique picture of health conditions in the territory before statehood. The importance of sanitation and a safe source of drinking water are striking.

INTRODUCTION

Not extensively studied, the medical history of Ft Sill constitutes one of the important facets of the early medical history of Oklahoma. In a previous report Rhoades and Bullock[1] described health conditions existing at the time Ft Sill was established in 1869. At that time medicine, especially in the military services, resembled that practiced during the Civil War. Bullock and Rhoades[2] subsequently reported the changes that took place in the first five years of the army post's existence. This "second" period of Ft Sill's history was that of continued frontier warfare against Kiowa, Comanche, Kiowa-Apache, Cheyenne and Arapaho warriors defending their reservations against white intrusion.

One of the functions of Ft Sill, Indian Territory after subjugation of the Indian tribes in the area, was to serve as an agency for Indians whereby the provisions of the Medicine Lodge Treaty could be carried out. After the tribes were finally settled on the reservation in 1874-75, life on the post became that of a reservation peacetime garrison and except for a rare expedition, military offensives against the Indians ceased. Life for the soldier at Ft Sill in 1875 was abruptly different from that of the preceding year. In January there were several detachments in the field — but not operating against Indians. This time the soldiers were in the field looking for horse thieves who were preying upon *the Indians!*

HEALTH CONDITIONS AT FT SILL, 1875

An excellent summary of health conditions on the post at this time is contained in the report of Surgeon F.L. Town to the commanding officer[3]:

Post Hospital
Ft Sill, Ind Ty
Jan 25, 1875

To the Commanding Officer
Ft. Sill
Sir: In compliance with Genl. orders No. 125 series of 1874 from A.F.O., I have carefully examined into the sanitary con-

ditions of the post and would respectfully submit the following report.

Quarters and Buildings

Police generally good. The refuse however, in some of the company grounds is not removed.

Character of Cooking of Rations

Owing to the low range of temperature the last few months the quantity of water supplied to companies has been insufficient. Quality good.

Drainage

The drainage being entirely surface, additional barrels are required in some of the companies to receive the slops from the kitchens, which in some cases have been apparently thrown on the ground.

Washing and Habits of the Men

Clothing apparently sufficient as a rule. In regard to the habits of the men it would appear there is almost no provision in the companies for the men to wash their hands and faces and I would respectfully suggest whether basins and towels might not be purchased from the company fund — and if so would recommend that a bench provided with basins should be placed either in the yard or dining room of the different companies.

Other Recommendations

I would respectfully state that I find the privies attached to the companies generally in bad condition, with excrement or urine on the seats and floors, — The urinals are not properly constructed and some of them are also out of repair. I would suggest that if one man in each company might be placed in charge of the privy and required to cleanse the floors and seats frequently their condition would be made comparatively wholesome. I would also respectfully recommend that the boxes be emptied somewhat oftener — for instance every second day in all of the companies regularly.

Very Respectfully,
Your obt. servant

signed F. L. Town
Surgeon USA

It can be seen that the surgeon was preoccupied with the most basic public and environmental health problems. In addition to the daily sick call and care of patients in the hospital, the physician was also the sanitary engineer.

In addition to providing a medical chronicle, the notes of the post surgeon provide vignettes of daily garrison life.[3]:

> Feb. 26 The remainder of the hostile Kiowas, 68 warriors and 180 women and children with 475 ponies arrived in the post as prisoners — having surrendered themselves on 19th inst. to a party of scouts and Comanches with Asa-hab-bet at their head.
>
> Feb. 27 . . . ponies sold at auction.
>
> March 22 Col. R. S. MacKenzie, 4th Cav. assumed command of the post relieving Lt. Col J. W. Davidson 10th Cav. (*Ranald MacKenzie was one of the prominent Indian fighters of the frontier wars).*
>
> April Lt. R. G. Carter, sick call, varicose veins (*Carter wrote the classic "On the Border with MacKenzie." During this period he was given sick leave for several months.*
>
> May 22 — Kicking Bird, one of the principal chief of the Kiowas, died suddenly May 4th, supposed to have been poisoned by strychnia — probably through jealousy or the anger of some of his tribe. Kicking Bird was far above any of his own nation, or of the Comanches, even, in general intelligence, of fine physique and a prepossessing countenance. He had been to a great extent, relied upon in discriminating what Indians of those surrendering, were most guilty of outrages and murders within the last few years — and who, about 75 in number, have been sent in irons to Fort Leavenworth, and from there to Fort Marion, Florida. Kicking

---

Everett R. Rhoades, MD, was graduated from the University of Oklahoma College of Medicine and is a Diplomate of the American Board of Internal Medicine. He recently resigned as professor of medicine and adjunct associate professor of microbiology at the University of Oklahoma Health Sciences Center and is now director of the Indian Health Service in Bethesda, Maryland. He is a Fellow of the American College of Physicians, a member of the Infectious Diseases Society of America, American Society for Microbiology and American Federation for Clinical Research.

Bird had shown himself a courageous and skillful leader in action against troops; particularly with reference to the fight with Captain McLellan, 6th Cavy. on Little Washita, Texas, in the summer of 1870.

The Kiowa version of Kicking Bird's death is that the great medicine man, "Mamanti" placed a "hex" on Kicking Bird for designating those Kiowas to be sent to prison at Ft Marion, Florida. The use of poison was foreign to Kiowa tradition.

A summary of disease for this year is shown in Table 1 which lists the deaths and medical reasons for discharge from the service. The devastating effects of valvular diseases of the heart are apparent.

A great deal of the post surgeon's duties were related to seeking support for adequate sanitation for the troops. Almost every month the report asked for better facilities. Water and adequate drainage of the surrounding land were items which occupied the attention of the surgeon[3]:

Table 1

FT SILL — 1875

DEATHS
INFLAMMATION OF LUNGS
ACUTE DIARRHEA
QUARTAN FEVER AND CHRONIC HEPATITIS
DROWNING
GUNSHOT WOUND, THORAX (FROM A QUARREL)
SUICIDE
CHRONIC DIARRHEA

DISCHARGES
VALV. DISEASE HEART
VALV. DISEASE HEART
VALV. DISEASE HEART
INFLAMM. OF ENDOCARDIUM
AMPUTATION RT. FOREARM
FOLLOWING WRIST INFLAMMATION
INGUINAL HERNIA
VALV. DISEASE HEART
REMITTENT FEVER
CONSTITUTIONAL SYPHILIS
VALV. DISEASE HEART
INFLAMM. OF PLEURA
MALARIOUS CACHEXIA
CONSTITUTIONAL SYPHILIS
PILES
VALV. DISEASE HEART
VALV. DISEASE HEART
VALV. DISEASE HEART
MALARIAL CACHEXIA
VALV. DISEASE HEART
CHRONIC DIARRHEA

Amount and Quality of the Water Supply

The quantity of water brought daily to companies appears to be sufficient. The recommendations of last month in regard to sheltering the water barrels from the sun and providing covers to exclude the dust, are respectfully renewed. As it is conceded to be of very great importance to the health of individuals that the water furnished for drinking and domestic purposes should be preserved as free as possible from organic impurities, it is believed that the camping of troops or Indians above the post on Medicine Creek, which afford the water supply of the garrison, is very liable to result in the introduction of various organic matters into the water, and influence the health of the command unfavorably. Likewise the watering of public animals in or near the locality from which water is brought is also likely to result in a certain amount of contamination. Also the watering of large numbers of animals daily above the post has occasioned the distribution of deposits of fine sediment containing more or less animal matter along the bed of the creek. Where it flows immediately by the post, this sediment is exposed to decomposition as the season advances, since the volume of the creek dwindles in mid-summer to a feeble current, which mostly percolates beneath the gravel. During the past season the bed of the creek was observed in an unsanitary condition from this cause, and emitted a decidedly unpleasant odor.

DRAINAGE

It is thought that the use of the covered drain which runs immediately in the rear of the company kitchens on the west side of the garrison is likely to seriously imperil the health of the command. Subsequent to its construction it was found that the drain would unavoidably become clogged (sic), and overflow, and that the decomposition of the slops, and more especially perhaps the garbage and frag-

ments of meat which the cooks could not be prevented from throwing into the drain, gave rise to an exceedingly pungent and offensive effluviam, which came up through the gratings and also from the prairie bottom just beyond the guardhouse upon which the contents of the drain flow, and pervaded the entire post, the drain proper terminates and discharges its contents of the slops just beyond the barracks. These emanations were considered so likely to be productive of most mischievous results — and might even originate an epidemic — that the use of the drain was discontinued and the gratings securely planked over, the openings have not since been uncovered until the arrival of the present command, and during the past month. After the shower last evening a distinctly septic odor hung around the post, and more particularly about the hospital and grounds, which has been traced to this drain, the wind being from that direction . . . Zinc lined privy boxes are again requested . . .

1876

The summer of 1876 was associated with a great number of cases of "intermittent fever" which prompted an inquiry by the Medical Director of the Department of Missouri. The reply by Surgeon Town gives a comprehensive view of the situation at Ft Sill as it applies to the prevailing concepts of malaria and other illnesses and provides considerable insight into the clinical knowledge of this physician.[3]

Post Hospital
Ind. Ty.,
Oct. 6th, 1876

To the Medical Director Dept. of Mo.
Fort Leavenworth, Ks.

In reply to your communication in reference to the exceptional prevalence of intermittent fever at the post at this time. I would respectfully state that, so far as I have been able to ascertain, the disease is common to the entire region, and is not especially limited to any locality — and has prevailed this season to a greater extent than usual among all the inhabitants, both whites and Indians, of this section, and probably throughout the Indian Territory. I believe however, that the site of the post to some extent is specially favorable for the development of Intermittents inasmuch as the prevailing winds which are southerly, drive often with considerable velocity up along the Cache Creek bottom lands and pass directly over the garrison. Situated at variable intervals along the prairie bottom of this creek towards the south are a succession of sloughs or shallow ponds, which are in this case covered with a vigorous growth of vegetations, and emanating abundantly from shallow stagnant pools, may be transported to a considerable distance by atmospheric currents. Some effort, with partial success, was made in 1873 to drain a somewhat extended series of these marshy depressions, stretching across the valley bottom to the south of the post, and distant from one-fourth to one-half mile. At this time the branches that were then dug have been to a great degree filled up — and they never were of sufficient depth and extent to effect their object. These boggy depressions are filled with water during the fall and spring months, which mostly disappears during the summer and in periods of drouth — and to drain them effectually, and prevent any further accumulation of stagnant water would require a considerable amount of labor, and extensive ditching. I am unable to form an opinion as to how great an extent the health of the garrison would be benefitted by this means, because the entire region is malarious as before stated, but have no doubt that with the suppression of this series of shallow sloughs one source of the miasma would disappear, and I believe that an evident decrease in Intermittents at the post might be reasonably anticipated to follow.

Surgeon Town is herein describing the miasmic theory of the cause of malaria. This theory stated that poison arose from stagnant swamp water and produced the disease. In view of the state of medical knowledge at the time (prior to discovery of the parasite of malaria), this theory was reasonable and Surgeon Town seemed to be up-to-date in this information. Indeed, the style of his writing indicates a man of high intelligence and learning. His term "intermittents" undoubtedly refers to malaria.

1877

On July 12, 1877 Lt Rogers, 4th Cav, and ten men left the post to accompany the Kiowas to celebrate their annual sun dance. In August, Pvt Henry Thomas lost a set of false teeth while bathing in deep water. Being unable to masticate his food, he was discharged on Surgeon's certificate of disability. He was not on sick report, or excused from duty.[3] *(One wonders if there could have been a more unusual discharge from military service.)*

In August the last group of Quohada Indians ("18 bucks and 25 women and children") came in from the staked plains and voluntarily surrendered as prisoners.

1878

The continued unhealthiness of the post led to the formation of a Board of Inquiry, established by special order No. 35, Feb. 17, 1878:

> board of officers will assemble on Monday the 18th to recommend such measures as in their judgement are best calculated to improve the hygienic condition of this post. Two measures have been recommended by the Medical Director of the Department, as stated in his letter of the 9th inst., the turning of the channel of Bluff Creek into the series of swamps and ponds west and south of the post and the construction of cisterns and wells.
>
> One measure the present commander had in view when stationed here in 1873 was the complete drainage of these ponds by a ditch running into Cache Creek. The board will report their opinion, whether the unhealthfulness of this post is due to immediate local causes, an opinion the present commander had never held — such measures as may be recommended by the board will be accompanied by an estimate of the cost.

The board, mostly medical officers, then made a minute inspection of the surrounding territory on horseback, and decided it would not be possible or practical to divert the stream of Medicine Bluff Creek, but that the second proposal, to drain the swamps and ponds, would be desirable, and recommended that ditches be dug to do this. They also recommended the building of eleven cisterns. At that time there was one well on the plateau, in operation only a few months, and noted to contain organic matter of animal origin.

Table 2

FT SILL — 1879

DEATHS	
DISEASE OF HEART	
HEPATATIS	
ACUTE DYSENTERY	
TYPHOMALARIAL FEVER	
TYPHOMALARIAL FEVER	
TYPHOMALARIAL FEVER	
DISCHARGES	
CHRONIC DIARRHEA	
FEEBLENESS OF MIND	
HERNIA	

On May 21, 1878 F.L. Town was relieved from duty and left for New York City. July 1878 was less severe from the standpoint of illness than the prior two years. (Table 2) Lt Col Davidson attributed this to daily inspections of all aspects of sanitation. However, in August, 35 cases were admitted to the hospital, of which 26 (74%) were for intermittent fever. During the month quinine was administered prophylactically to the troops in order to prevent malaria. The surgeon continued to recommend that the cavalry horses not be watered in the same pools from which water for cooking and drinking were obtained. The outbreak of malaria continued into October. Some of the features were so striking that the post surgeon outlined them in a communication to the commandant.[3]

> Some features of the prevailing types of fever are so peculiar that I will point out the most prominent of them for the information of the Post Commander. A typical intermittent fever is characterized by a cold, a hot, and a sweating state. In the disease we have to do with, the cold stage is either absent, scarcely noticeable, or neuralgic pains of the mucles may take its place. A well marked cold state is rare. The hot state is usually anomalous. The fever may be absent in whole or in part, neuralgic pains or vomiting or both, being substituted for it. In the latter case the vomiting continues for one or two periods, when the fever takes its place at the next or subsequent attack and the vomiting ceases. Or a neuralgic pain may be substi-

tuted for both cold and hot states and terminate like the fever in the usual sweating stage. In a few cases the muscular pains have taken the place of the hot and sweating stages, continued throughout the interval in a mitigated form to again increase in severity at the recurrence of the next attack. These pains might be regarded as an ingraftment of Dengue on malarial fever, but for the fact of their periodicity and the efficiency of quinine in curing them. Rapid congestion of the liver and spleen and yellowing of the skin are common features of this form of the disease.

There seems little doubt that the surgeon is describing malaria. The post surgeon finally succeeded in draining the bottomland to the west of the post. Even with this improvement, there were three deaths from "typhomalarial" fever. (Table 2)

COMMENT

As the newly established post of Ft Sill changed to a peacetime garrison, the attention of the post surgeon was largely taken up with questions of sanitation. The usual differences between the medical service and the line officers was displayed with the commanding officer holding firm convictions of his own about disease causation. Even in view of our greatly altered ideas regarding sanitation, it is hard to understand how men would obtain drinking water from the same pool that was used for watering horses.

The diseases encountered by the post surgeon were strikingly varied. Valvular disease of the heart must have been rampant if the discharge from service for medical conditions is any indication. In 1875, nine of 21 (42.9%) discharges were for this condition. A great deal of morbidity also arose from "intermittent fever" and other "fevers" of various kinds. In 1875 there were deaths caused by "inflammation of the lungs," acute diarrhea, "quartan fever and hepatitis," drowning, gunshot wound, suicide, and chronic diarrhea. (Table 1) In 1879 one-half of the deaths were from "typhomalarial fever." (Table 2)

Table 3

July, 1876	Percent of sick to command	37.9
	Mean of temperature	84.32
	Amount of rainfall	1.35″
July, 1877	Percent of sick to command	29.0
	Mean of temperature	79.12
	Amount of rainfall	4.20″
July, 1878	Percent of sick to command	5.35
	Mean of temperature	80.6
	Amount of rainfall	3.98″

The chronicle of medical care at Ft Sill during this time reveals medical officers with considerable learning and up-to-date ideas regarding causation of common illness. In addition to caring for the considerable number of sick people, the post surgeon spent a large proportion of his time in sanitation work. There were two major causes of morbidity: persistent low-lying water holes around the post with inadequate sanitary disposal and establishment of a safe water supply. By the end of the decade (1879) considerable progress was made in drainage of surface water from the post. The problem of a safe source of drinking water was not solved until 1883 when Surgeon Morse K. Taylor succeeded in building a spring house on the north side of Medicine Bluff Creek.[4] This provided an excellent source of clean water for drinking.

REFERENCES

1. Rhoades, E. R. and Bullock, D.: Medicine in Southwestern Oklahoma Before Statehood, I. The Establishment of Ft. Sill, I. T. *J Okla Med Assn* **64**:497-503, 1971.
2. Bullock, D. and Rhoades, E. R.: Medicine in Southwestern Oklahoma Before Statehood II., Ft. Sill, I.T. 1869-1875. *J Okla Med Assn* **65**:65-73, 1972.
3. Medical History of Post 1873-1880. MS. Ft. Sill Okla. Library Access No. B 44711.
4. Rhoades, E. R.: Morse Kent Taylor 1823-1889. Pioneer Oklahoma Physician. *J Okla State Med Assn* **65**:23-27, 1972.

Director Indian Health Service, Parklawn Building, 5600 Fishers Lane, Rockville, Md.

News From The Oklahoma State Department of Health

The Oklahoma Blood Exchange Council was created by the Blood Exchange Act of 1980. The act was passed by the Oklahoma Legislature to insure that citizens of the state have access to blood and blood products at the lowest possible cost, and to promote cooperation among the blood collection and distribution systems which operate in the state.

The council has four major functions: (1) review annually the lists of charges, costs and prices for blood and blood products from each blood system in the state; (2) deal with any proposed alternations in the regions within which the several systems operate; (3) educate the public about the benefits of participating in blood collection programs; and (4) deal with complaints and recommendations from any source with regard to blood and blood related activities in the state.

The council is composed of 19 members with three members from each of the six Congressional districts. One of the three is a health care provider appointed by the Commissioner of Health with a limit of three allopathic or osteopathic physicians in this group. Another of the three is a representative of the predominant blood service system in that district and the third person is a consumer or public member designated by the Governor. The Commissioner of Health serves s the chairperson of the council.

The council held its organizational meeting in October of 1980 and plans to hold regular meetings three times a year to conduct routine business and may meet more frequently to deal with urgent matters.

Physicians, patients, and others who wish to raise issues related to blood and blood products in Oklahoma can communicate with the council through correspondence with the Commissioner of Health, Chairman, Blood Exchange Council, PO Box 53551, Oklahoma City, OK 73152. □

COMMUNICABLE DISEASES IN OKLAHOMA FOR NOVEMBER, 1981

DISEASE	November 1981	November 1980	October 1981	TOTAL TO DATE 1981	1980
Amebiasis	—	—	3	24	39
Aseptic Meningitis	7	21	15	101	74
Brucellosis	—	2	1	7	10
Encephalitis, Infectious	3	3	3	25	17
Gonorrhea (Use Form ODH-228)	1341	1073	1422	14654	12769
Hepatitis A	29	35	26	281	346
Hepatitis B	17	14	27	211	196
Hepatitis Unspecified	19	5	16	147	221
Malaria	1	—	—	8	12
Measles (Rubeola)	—	—	1	6	775
Meningococcal Infections	6	3	4	46	23
Pertussis	—	4	—	2	28
Rabies (Animal)	8	11	16	207	234
Rocky Mountain Spotted Fever	—	10	1	98	73
Rubella	—	—	1	2	6
Salmonellosis	38	37	44	392	339
Shigellosis	47	14	60	424	220
Syphilis (Use Form ODH-228)	13	9	27	167	108
Tetanus	1	—	—	2	1
Tuberculosis	30	38	11	302	306
Tularemia	6	2	2	34	23
Typhoid Fever	—	—	—	5	7

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Controversial Program Planned For OSMA 1982 Annual Meeting

Plans are under way to make the OSMA 1982 Annual Meeting one of the most interesting and "controversial" to date. Both the topics and format of the meeting are a departure from the norm for most annual get-togethers.

The theme of the scientific program is "The Great Debates: Controversies in Medicine 1982." The focus is on the issues that have sparked debate recently within the medical profession.

Issues slated for debate range from drug vs electroconvulsive treatment for depression to use-and-abuse of the CAT to prevention of teenage pregnancy. These and other controversial subjects will be debated by a select group of highly qualified speakers. Once the speakers have presented their views, they will invite members of the audience to offer questions and comments.

Session times, topics, and speakers are listed in the advance program being sent to OSMA members. A hotel reservation card is included in the mailing. □

Historic Skirvin Plaza Offers Elegant Annual Meeting Site

The elegant, newly renovated Skirvin Plaza Hotel, situated in the heart of downtown Oklahoma City, will host the OSMA 1982 Annual Meeting. Located in the capital city's central business and shopping district, this historic hotel offers luxurious accommodations, spacious, well-appointed meeting and banquet facilities, and some of the finest cuisine in the southwest.

It also provides easy access to Skirvin Place, the new boutique and restaurant arcade located beneath the hotel, and to the underground tunnel system linking the many shopping and dining attractions that dot the city's subterranean passageways.

The stately old hotel boasts the newly decorated Pinstripes, a sophisticated, yet intimate, lounge for friends and colleagues to gather, and the Park Avenue Room, a warm and gracious setting for fine dining.

OSMA is enclosing a hotel reservation card for the Skirvin Plaza with the advance program being mailed to members. The card should be completed and returned as soon as possible, since hotel rooms will be at a premium. □

Rep Jones Predicts Major Changes In Health Care Delivery System

Oklahoma Congressman James Jones, speaking at the John W. McCormack Memorial Health Lecture in Washington, DC, warned of major changes to come in the nation's health care delivery system.

Jones, who is chairman of the House Budget Committee, told the gathering of health care specialists that "the federal government must be concerned about rising health care costs. Eventually, there will be strong political pressures to reduce those costs, one way or another."

Jones urged the audience to take an active part in shaping the changes. "You may think I am crying wolf," he said. "You've heard all this before, and yet the wolf has never appeared. In all candor, I must tell you now that the wolf is at the door."

Jones reminded that group that in 1970 Americans spent $75 billion on health care, or $358 per capita; in 1980 that bill rose to $245 billion, for a per capita expenditure of $1,078.

"Studies indicate that by 1990 we will spend $750 billion on health care," the congressman noted. "That is more than the entire current federal budget."

Jones pointed to the effects of inflation, the cutbacks in federal health care programs, the shortage of nurses and potential surplus of physicians, the pressures for more sophisti-

cated care, and the increasing number of retirees as "factors which threaten to escalate the dizzying rate of climbing costs." He said that the question becomes "how to put on the brakes and yet maintain a quality medical service."

The congressman warned that the "eventual goal of proposals to limit costs is to put pressure on you, the providers, to make the difficult decisions to determine how this can be done."

Jones described the original cost-containment proposal of President Carter as failing to address the underlying causes of health care inflation. "The proposal was to put a lid on the rising costs," he noted, "but nothing was to be done to turn down the flame under the pot."

Jones focused on the public's distrust of federal regulations as the primary reason for the proposal's failure and for the growing popularity of the so-called "competitive" model of health care.

He reminded the audience that several of the legislators who had introduced pro-competition bills, including Jones himself, are now in a position to affect health policy. These include Office of Management and Budget Director David Stockman, Secretary of Health and Human Services Richard Schweiker, and Senator Dave Durenburger, chairman of the Senate Finance Subcommittee on Health.

"I would like us to move carefully toward a workable solution to the health care cost problem," the congressman remarked. "I would prefer to see us try some demonstration projects before instituting a nationwide program. We should experiment with a strong commitment to bettering the system."

Jones emphasized the need for support and ideas from members of the medical profession. "We cannot stand still," he said, "because the budgetary tide is against us. If we fail, I will not be back to cry wolf again. The wolf will be inside the door. Programs, costs, and health care itself will still be cut, not with a surgeon's scalpel, but with a butcher's axe." □

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Women Entering Medical Schools At Three Times the Rate of 1969

Women accounted for approximately 29 percent of students entering US medical schools in the 1980-81 academic year, a figure that is nearly three times the percentage of women entrants in 1969, the year that enrollment of women began to increase.

According to recent issue of the *AMA Journal,* there were 4,970 women in the entering class of 17,146 students, an increase of four percent over the preceding year. More than 46 percent of women who applied to medical school were admitted.

The total number of women in US medical schools during the 1980-81 academic year was 17,373, making up 26.5 percent of the total student enrollment of 65,497 students. Of the 15,667 MD graduates in 1981, 3,892, or 24.8 percent, were women.

Overall enrollment of students in US medical schools in the 1980-81 academic year increased slightly over the previous year, while the total number of applicants decreased somewhat. This was the sixth consecutive year of decline in medical school applications. □

Oklahoma Ranks Thirty-Fourth In Percent of Women Physicians

Oklahoma ranks thirty-fourth among the fifty states and the District of Columbia in the percentage of women making up its physician population. According to statistics compiled by the American Medical Association, nine percent of Oklahoma's physicians are women, compared with a current national average of 12 percent.

The District of Columbia ranks the highest in the percentage of women physicians, with 18.4 percent; the state of Idaho ranks the lowest, with 4.5 percent. Leading states, all with women physicians making up more than 14 percent of the physician population, include New York, Illinois, New Jersey, Massachusetts, Maryland, and Delaware.

When the figures are broken down to include only residents-in-training, Oklahoma drops to fortieth on the list, with 17.3 percent women. The District of Columbia remains first on the list, with 31.3 percent, while North Dakota is last, with 11.7 percent. The current national average for women residents-in-training is 22 percent.

According to a report by the AMA's committee on women physicians in organized medicine, the growing enrollment of women in medical schools could swell the national percentage of women physicians to 33 percent within this decade. □

JCAH Develops Guidelines For Psychiatric Standards

The Board of Commissioners of the Joint Commission on Accreditation of Hospitals (JCAH) has approved principles for the development of unified standards for hospital-based psychiatric facilities.

All psychiatric units that are part of general acute-care hospitals will be surveyed using the new standards once they have been approved and published. Free-standing psychiatric and chemical dependency facilities may seek surveys using JCAH's *Consolidated Standards* for psychiatric facilities or the new standards, which will appear in the *Accreditation Manual for Hospitals.* Currently, all psychiatric units with 100 or more beds are surveyed using the *Consolidated Standards.*

The principles for development of the new standards will address the types of psychiatric services to which the standards will apply; the inclusion of the new standards in the accreditation manual; the hours and days maintained by facilities to be surveyed; and the primary functions and acute clinical services provided by facilities to be surveyed.

Drafts of the hospital-based psychiatric standards will be mailed to selected agencies, organizations, and facilities for review and comment early this year. If approved, the new standards will be included in the 1983 edition of the accreditation manual. □

plico
HEALTH

A NEW GROUP HEALTH INSURANCE PLAN FROM THE COMPANY YOU TRUST!

The Physicians Liability Insurance Company has earned a special place of *trust* in the minds of all state physicians — because PLICO is the *subsidiary company* of the Oklahoma State Medical Association which *saves* doctors *over $3,000,000* in professional liability premiums *annually*.

PLICO's reputation as an efficient problem-solver was given a vote of confidence when a recent statewide poll revealed that 82.3 percent of OSMA members would switch to a broad-benefit, low-cost Comprehensive Major Medical and Hospital Insurance Plan which bears the PLICO label.

The need for a square deal in health insurance has now been met by *PLICO HEALTH*, a new product of *your Company* which offers *three optional plans* to fit the variable needs of physicians, their employees and their respective dependents.

PLICO HEALTH features big-hearted coverage expressed in a *plain language* insurance policy designed to promote clarity rather than create confusion. And, for the first time, you are being offered a health insurance plan with coverage choices which will flex with your individual needs . . . which is profoundly simple to understand . . . which addresses your health care expenses realistically and responsibly . . . and which is sold at premium rates likely to embarrass our competition.

Most importantly, management is provided by distinguished physician colleagues you know and trust — and daily administration is from a taut and talented insurance agency.

Enrollment is open to the OSMA medical community without evidence of insurability until April 1st. Look for the *PLICO HEALTH* sales brochure now being mailed statewide.

Place your trust in PLICO — It's *your company!*

PLICO HEALTH IS A DIVISION OF
THE PHYSICIANS LIABILITY INSURANCE COMPANY
P.O. Box 18171, Oklahoma City, OK 73154, 405/843-0215

Deaths

JAMES R. BARNES, MD
1945-1981

A 36-year-old Tulsa physician, James R. Barnes, MD, died December 13, 1981. A native of Winfield, Kansas, Dr Barnes was graduated from the University of Kansas School of Medicine in 1973. Following three years of service with the US Navy, he began his residency training at the University of Oklahoma Tulsa Medical College.

E. RANKIN DENNY, MD
1901-1981

E. Rankin Denny, MD, 80, retired Tulsa internist, died December 16, 1981. Born in Plainville, Indiana, Dr Denny was graduated from Indiana University School of Medicine in 1925 and had practiced in Bartlesville before establishing his practice in Tulsa. Among his medical affiliations were the American College of Physicians, American College of Cardiology and American Diabetes Association. He was a Life Member of the OSMA. □

IN MEMORIAM

1981

Fred S. Watson, MD	*February 3*
Robert J. Terrill, MD	*February 16*
David J. Tomko, MD	*March 4*
Eugene F. Lester, Jr., MD	*March 16*
J. Samuel Binkley, MD	*March 16*
Gilbert L. Hyroop, MD	*April 15*
Leo A. Myers, MD	*April 19*
J. Holland Howe, MD	*April 20*
Harold M. McClure, MD	*April 27*
Sam W. Hendrix, MD	*May 12*
Roger C. Good, MD	*June 16*
Frederick G. Dorwart, MD	*June 16*
Joseph W. Kelso, MD	*June 18*
Rufus K. Goodwin, MD	*June 25*
Orville C. Armstrong, MD	*July 9*
Charles F. Paramore, MD	*July 10*
James D. Reynard, MD	*July 21*
Mark R. Everett, PhD	*August 17*
Khalil Ahmad, MD	*August 22*
M. H. Haskell, MD	*August 30*
C. F. Foster, Jr., MD	*October 11*
E. E. Shircliff, MD	*October 23*
S. N. Stone, Jr., MD	*November 9*
James R. Barnes, MD	*December 13*
E. Rankin Denny, MD	*December 16*

□

Education Is Primary Goal Of Medical Assistants Group

One of the primary goals of the American Association of Medical Assistants (AAMA) is to educate its members so that they may better serve the physicians who employ them and the public that depends on them. To meet this goal, the Oklahoma branch of the AAMA has scheduled a series of educational meetings this spring.

On March 6-7, the state society will hold its 22nd Annual Seminar at Oklahoma State University in Stillwater. Seminar topics include marijuana and its uses in oncology, the rape crisis clinic, forensic pathology, and death and dying. The state convention is scheduled for April 30-May 2, and the South Central Regional Meeting is slated for June 11-13 at the University of Oklahoma campus in Norman.

Because physicians rely heavily on their medical assistants to manage their offices, purchase medical equipment and supplies, and answer patients' questions, the AAMA feels it is essential that medical assistants possess the knowledge and skills necessary to carry out these important responsibilities. The state society asks that physician-members of the Oklahoma State Medical Association support its educational efforts by encouraging their medical assistants to attend the AAMA meetings. □

MEDICAL-LEGAL SEMINARS PRESENTS

"COMPUTERS IN MEDICAL OFFICE PRACTICE"

A one-day seminar for physicians, office managers and clinic managers interested in considering the use of a computer in an office practice. This is a basic "how to" program designed to answer questions about computers and their use in billings, collections, scheduling, patient records, business records, patient education, inventory control, word processing, diagnostic research, and medication indications and contraindications.



9 AM - 4 PM

February 17
Wednesday
Excelsior Hotel
Tulsa

February 24
Wednesday
Holiday Inn West
Oklahoma City

For registration information write:

Medical-Legal Seminars
5131 Classen Blvd., Suite 212
Oklahoma City, OK 73118

President Names Dr Cooper To Physical Fitness Council



Dr Donald L. Cooper, director of the Oklahoma State University (OSU) Health Center and team physician for the OSU Cowboys for nearly 22 years, has been named by President Reagan to the President's Council on Physical Fitness and Sports. The council is instrumental in developing physical fitness programs and standards for the nation's elementary and secondary schools.

Dr Cooper, who served as team physician for the US Olympic Team in 1968, is considered to be an expert in the area of sports and medicine. Over the years he has contributed his time and talents in this area to the American Medical Association, the National Collegiate Athletic Association, the American College Health Association, the American College of Sports Medicine, the National Athletic Trainers Association, the United States Wrestling Federation, and the Oklahoma State Medical Association. Many of these organizations have honored him with awards for his outstanding service.

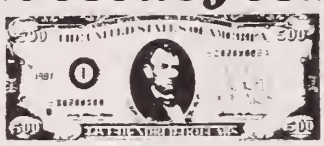
Dr Cooper was nominated to the President's Council by Oklahoma Senator Don Nickles. □

Resolutions Due

All resolutions to be presented to the Oklahoma State Medical Association House of Delegates annual meeting must be received in the executive office no later than thirty (30) days prior to the meeting. This year's meeting is to be held May 6, 1982 at the Skirvin Plaza Hotel in Oklahoma City.

County medical societies or individuals wishing to submit resolutions should mail them to OSMA, 601 N.W. Expressway, Oklahoma City, OK 73118. Should you need assistance in drafting such resolutions, please contact the executive offices. □

Fabulous Money Machine?



If you owned a machine that printed a brand new $500 bill each week, you'd be most fortunate wouldn't you? But, what if this very special machine had parts that could not be replaced? As a prudent person in control of such a machine you would want some assurance that if the machine stopped producing $500 bills, you could still receive them, wouldn't you?

Physicians are high-achieving professional breadwinners and can be compared to "money machines". But, they are also human beings, who because of their profession, have a greater than average understanding of the prospects of unexpected accidents and illnesses which can impair or destroy their income producing ability.

Through the Oklahoma State Medical Association Group Disability Program, you have the opportunity to obtain assurance of uninterrupted income if your health should fail.

Three plans are available. Plan L-65 pays accident benefits for lifetime. Sickness benefits are payable to age 65, or for a 2-year maximum period if disability begins between ages 63 and 70. Benefits are payable for 10 years based on being unable to perform every duty of your occupation, thereafter, based on being unable to perform the duties of any gainful occupation for which you are reasonably fitted.

Semi Annual Premium — Benefit payable after 8 days for sickness, first day for accidents.

Plan L-65



WEEKLY INDEMNITY	UNDER AGE 30	AGE 30-39	AGE 40-49	AGE 50-59	AGE 60-69
$500.00	$301.50	$346.50	$476.50	$641.50	$418.50*
400.00	241.50	277.50	381.50	513.50	418.50*
300.00	181.50	208.50	286.50	385.50	418.50
200.00	121.50	139.50	191.50	257.50	279.50
100.00	61.50	70.50	96.50	129.50	140.50

For full particulars, contact JANE GRIFFITH

C. L. FRATES & COMPANY, INC.
Administrator, OSMA Group Insurance Plans
720 N.W. 50th Street, Oklahoma City, OK 73118 (405) 848-7661

There's more to ZYLOPRIM® than (allopurinol).



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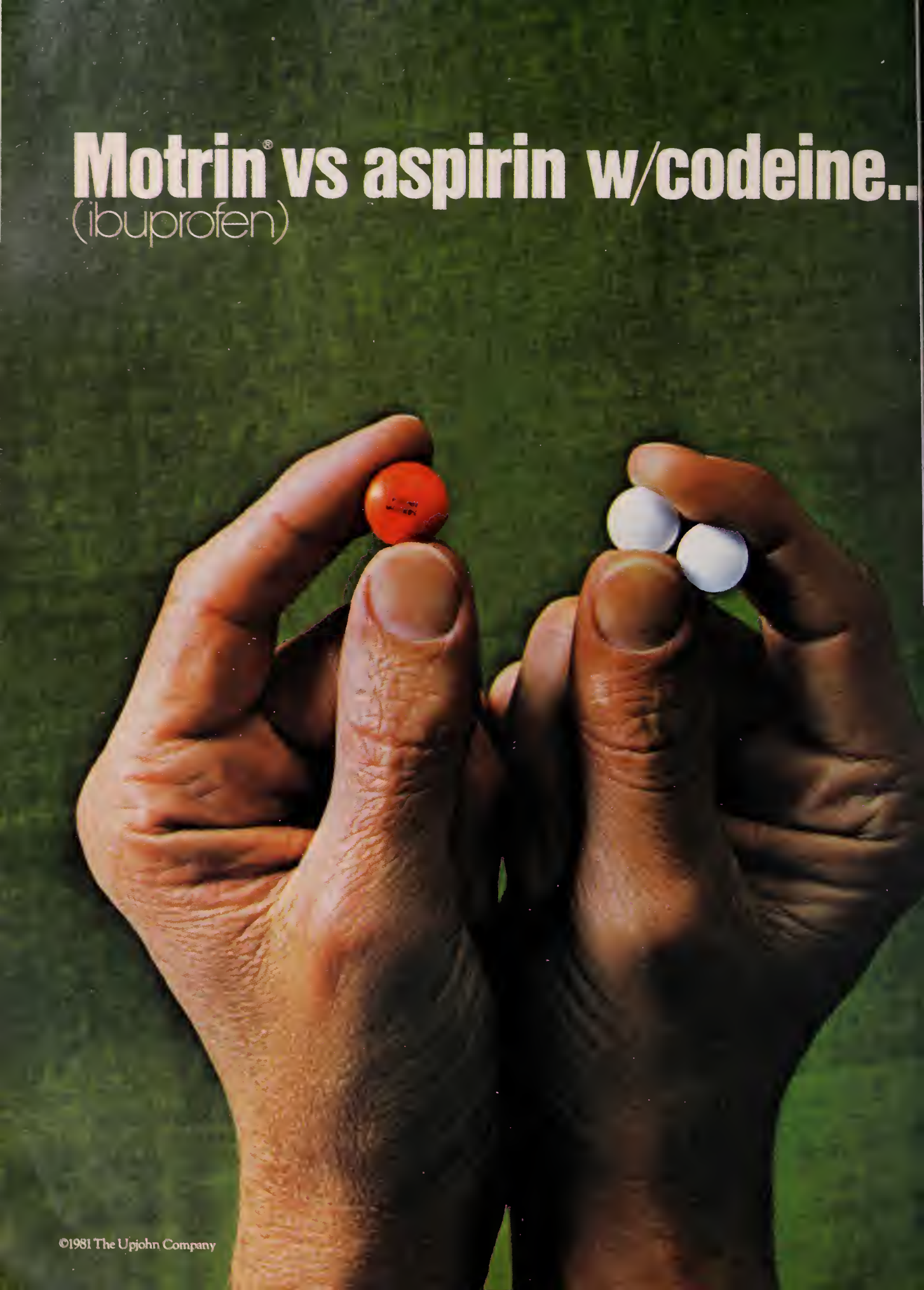


Prescribe for your patients as you would for yourself.

Write "D.A.W.," "No Sub," or "Medically Necessary," as your state requires, to make sure your patient receives the original allopurinol.

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Motrin® vs aspirin w/codeine..
(ibuprofen)

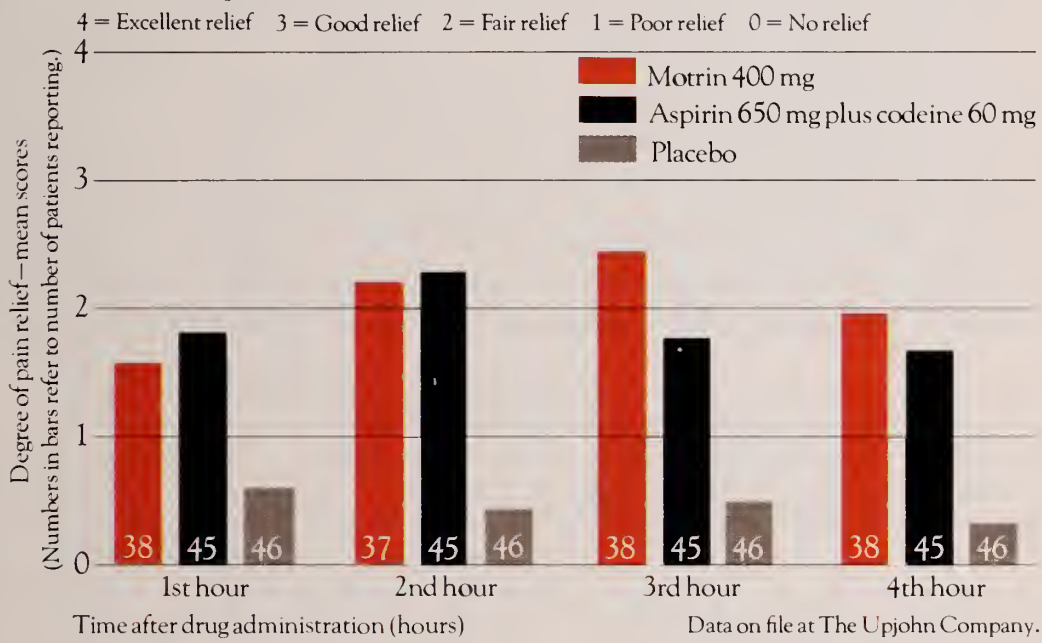


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compare the analgesic effect

A *Motrin* 400 mg dose relieved postsurgical dental pain as effectively as a combination of 650 mg aspirin and 60 mg codeine (two aspirin-with-codeine No. 3 tablets) in a study of 129 patients. In this double-blind, placebo-controlled, randomized study, no statistically significant difference in relief of pain was noted at 1, 2, and 4 hours between the *Motrin* and aspirin-with-codeine groups... with *Motrin* being significantly more effective ($p = 0.03$) at the three-hour interval. Active treatment was significantly more effective ($p < 0.0001$) than placebo at all time intervals.

Comparison of pain relief
Motrin vs aspirin-codeine combination



Data on file at The Upjohn Company.

One tablet q4-6h prn
For relief of mild to moderate pain:

Motrin® 400 mg TABLETS
ibuprofen, Upjohn

• Not a narcotic • Not addictive • Not habit forming • Nonscheduled • Acts peripherally • Relieves pain rapidly • Relieves inflammation • Indicated in acute and chronic pain • Well tolerated (The most common side effect with *Motrin* is mild gastrointestinal disturbance.)

Please turn the page for a brief summary of prescribing information.

Upjohn

Motrin® (ibuprofen) now proved an effective analgesic for mild to moderate pain

Motrin® Tablets (ibuprofen, Upjohn)

Indications and Usage: Relief of mild to moderate pain.

Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in long-term management. Safety and efficacy have not been established in Functional Class IV rheumatoid arthritis.

Contraindications: Individuals hypersensitive to it, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory agents (see WARNINGS).

Warnings: Anaphylactoid reactions have occurred in patients with aspirin hypersensitivity (see CONTRAINDICATIONS).

Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Ulceration, perforation, and bleeding may end fatally. An association has not been established. Motrin should be given under close supervision to patients with a history of upper gastrointestinal tract disease, only after consulting ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be tried. If Motrin must be given, the patient should be under close supervision for signs of ulcer perforation or gastrointestinal bleeding.

Precautions: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If these develop, discontinue Motrin and the patient should have an ophthalmologic examination, including central visual fields.

Fluid retention and edema have been associated with Motrin; use with caution in patients with a history of cardiac decompensation.

Motrin can inhibit platelet aggregation and prolong bleeding time. Use with caution in persons with intrinsic coagulation defects and those on anticoagulant therapy.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain, or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy should have therapy tapered slowly when Motrin is added.

Drug interactions. *Aspirin* Used concomitantly may decrease Motrin blood levels. *Coumarin* Bleeding has been reported in patients taking Motrin and coumarin.

Pregnancy and nursing mothers: Motrin should not be taken during pregnancy nor by nursing mothers.

Adverse Reactions

Incidence greater than 1%

Gastrointestinal: The most frequent type of adverse reaction occurring with Motrin is gastrointestinal (4% to 16%). This includes nausea,* epigastric pain,* heartburn,* diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of the GI tract (bloating and flatulence). **Central Nervous System:** Dizziness,* headache, nervousness. **Dermatologic:** Rash* (including maculopapular type), pruritus. **Special Senses:** Tinnitus. **Metabolic:** Decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

*Incidence 3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: Upper GI ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** Depression, insomnia. **Dermatologic:** Vesiculobullous eruptions, urticaria, erythema multiforme. **Cardiovascular:** Congestive heart failure in patients with marginal cardiac function, elevated blood pressure. **Special Senses:** Amblyopia (see PRECAUTIONS). **Hematologic:** Leukopenia, decreased hemoglobin and hematocrit.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** Paresthesias, hallucinations, dream abnormalities. **Dermatologic:** Alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** Hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** Fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** Gynecomastia, hypoglycemia. **Cardiovascular:** Arrhythmias. **Renal:** Decreased creatinine clearance, polyuria, azotemia.

Overdosage: In cases of acute overdosage, the stomach should be emptied. The drug is acidic and excreted in the urine, so alkaline diuresis may be beneficial.

Dosage and Administration: Rheumatoid arthritis and osteoarthritis, including flares of chronic disease. Suggested dosage is 300, 400, or 600 mg t.i.d. or q.i.d.
Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain.

Do not exceed 2400 mg per day.

Caution: Federal law prohibits dispensing without prescription.

For additional product information, see your Upjohn representative or consult the package insert.

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MARCH 1981

It's time we took arthritis seriously

It's a myth that arthritis is just the minor aches and pains of old age. It's a major crippler that attacks. Anybody. Anytime. 31 million Americans have it. There are almost a million new cases a year. And six out of ten are under 60. Symptoms can come and go for years. So if you don't know the warning signals, find out. If you'd like information that could help you—or you'd like to help us—write to the Arthritis Foundation, Box 19000, Atlanta, GA 30326.

ARTHRITIS FOUNDATION

Calendar of Events

First Helmerich Cancer Center Symposium — **"Current Concepts In Lung Cancer,"** February 20, 1982, Williams Plaza Hotel, Tulsa, OK. No registration fee.

*"**Disaster Medicine,**" February 20, 1982, University of Oklahoma Health Sciences Center.

"Critical Care Medicine Course," March 7-12, 1982, University of Oklahoma Health Sciences Center (Co-sponsored by The American Lung Association of Oklahoma), Sheraton-Century Center Hotel, Oklahoma City, OK. For further information, contact Robert McCaffree, MD, (405) 271-6173.

*"**Oklahoma Physician's Spring Retreat,**" March 13-20, 1982, University of Oklahoma Health Sciences Center.

*"**Fourth Oklahoma Symposium on Drinking Behavior and Alcoholism,**" March 19-20, 1982, University of Oklahoma Health Sciences Center.

*"**Clinical Problems in Ophthalmology,**" April 3, 1982, University of Oklahoma Health Sciences Center.

*For further information call: Office of Continuing Medical Education, (405) 271-2350. □

Governor Asks Budget Increase For Physician Manpower Group

Governor George Nigh has proposed a budget increase of $1.9 million over current fiscal year funding for the Physician Manpower Training Commission (PMTC). This would bring the commission's budget to $6.8 million for the fiscal year beginning next July 1.

The PMTC was created in 1975 to encourage graduates of Oklahoma's medical schools to practice in Oklahoma and to increase the number of physicians practicing in rural areas. Working with community and private organizations, the commission provides financial assistance to medical students through its scholarship, internship, and residency programs.

The proposed budget would fund ten new positions in the commission's rural scholarship program, ten new positions in the community matching scholarship program, and 17 new positions in the residency programs.

In submitting the budget request, the governor underscored the commission's vital role in retaining physicians and referred to the PMTC as "an asset in helping us improve the quality of life in all areas of the state." □

Miscellaneous Advertisement

EMERGENCY PHYSICIANS — Oklahoma, Kansas, Missouri. Emergency medicine positions available in metropolitan, rural and recreational areas. Flexible scheduling allowing personal time off. Competitive compensation varying with facility and patient volume. Training and/or experience in emergency medicine, family practice or internal medicine. Forward CV or call Gina Taylor, Emergency Medicorp, P.A., 1950 East Santa Fe, Olathe, Kansas 66062. (800) 255-6160 or (913) 764-6160.

FAMILY PHYSICIANS, CENTRAL OKLAHOMA MEDICAL GROUP, an independent professional corporation has a growing fee-for-service and prepaid medical practice in association with Prudential Health Care Plan of Oklahoma (PruCare). Second facility opening February '82. Excellent hours, salary, vacation and tax-free benefits. Extra pay for board certification. Contact R. LeRoy Carpenter, MD, 3330 NW 56 St., Suite 300, Oklahoma City, OK 73112 (405) 942-6620.

OKLAHOMA CITY -COUNTY HEALTH DEPARTMENT. Medical Director for modern health department in new building with $3,500,000 annual budget. MD eligible for Oklahoma licensure with MPH or equivalent. Six-year fulltime public health experience required. Annual salary range: $50,000 to $60,000. Near medical and dental schools. Excellent retirement. Send CV and three recommendations by April 23, 1982 to Oklahoma City-County Board of Health, Attention: Keith Stanley, PhD, 921 NE 23rd Street, Oklahoma City, OK 73105. Equal opportunity employer.

FAMILY PRACTICE OPPORTUNITIES in Southeast Kansas and in several areas of Missouri. Solo, group or associated practice. Immediate openings. Please call Deanna Feldman, Health Resources, Ltd. (816) 587-0920.□

Candidates for nutritional therapy...

10,000,000 alcoholics. Ethanol may produce many effects that together bring about nutritional deficiencies, so that alcoholism affects nutrition at many levels.[1]

25,500,000 geriatric patients. The older patient may have some disorder or socio-economic problem that can undermine good nutrition.[2]

23,500,000 surgical patients. Nutritional status can be compromised by the trauma of surgery; and some operations interfere with the ingestion, digestion and absorption of food.[3]



Before prescribing, please consult complete product information, a summary of which follows:
Each Berocca® Plus tablet contains 5000 IU vitamin A (as vitamin A acetate), 30 IU vitamin E (as *dl*-alpha tocopheryl acetate), 500 mg vitamin C (ascorbic acid), 20 mg vitamin B_1 (as thiamine mononitrate), 20 mg vitamin B_2 (riboflavin), 100 mg niacin (as niacinamide), 25 mg vitamin B_6 (as pyridoxine HCl), 0.15 mg biotin, 25 mg pantothenic acid (as calcium pantothenate), 0.8 mg folic acid, 50 mcg vitamin B_{12} (cyanocobalamin), 27 mg iron (as ferrous fumarate), 0.1 mg chromium (as chromium nitrate), 50 mg magnesium (as magnesium oxide), 5 mg manganese (as manganese dioxide), 3 mg copper (as cupric oxide), 22.5 mg zinc (as zinc oxide).

Indications: Prophylactic or therapeutic nutritional supplementation in physiologically stressful conditions, including conditions causing depletion, or reduced absorption or bioavailability of essential vitamins and minerals; certain conditions resulting from severe B-vitamin or ascorbic acid deficiency; or conditions resulting in increased needs for essential vitamins and minerals.
Contraindications: Hypersensitivity to any component.
Warnings: Not for pernicious anemia or other megaloblastic anemias where vitamin B_{12} is deficient. Neurologic involvement may develop or progress, despite temporary remission of anemia, in patients with vitamin B_{12} deficiency who receive supplemental folic acid and who are inadequately treated with B_{12}.
Precautions: *General:* Certain conditions may require additional nutritional supplementation. During pregnancy, supplementation with vitamin D and calcium may be required. Not intended for treatment of severe specific deficiencies. *Information for the Patient:* Toxic reactions have been reported with injudicious use of certain vitamins and minerals. Urge patients to follow specific dosage instructions. Keep out of reach of children. *Drug and Treatment Interactions:* As little as 5 mg pyridoxine daily can decrease the efficacy of levodopa in the treatment of parkinsonism. Not recommended for patients undergoing such therapy.
Adverse Reactions: Adverse reactions have been reported with specific vitamins and

ROCHE

0,000 hospital ents with tions.[4] Many are ano- nd may have a markedly c food intake. Supplements n provided as a prudent e because the vitamin sta- ritically ill patients cannot ily determined.[3]

The incalculable millions on calorie-reduced diets. Patients ingesting 1000 or fewer calories per day could be at high risk because this intake may not supply most nutrients in adequate amounts without supplementation.[5]



, but generally at levels substan- gher than those in Berocca Plus. r, allergic and idiosyncratic reac- possible at lower levels. Iron, the usual recommended levels, n associated with gastrointestinal nce in some patients.

and Administration: Usual adult one tablet daily. Not recom- for children. Available on pre- n only.

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Berocca Plus
A balanced formula for prophylactic or therapeutic nutritional supplementation.

Berocca Plus Tablets provide: therapeutic levels of ascorbic acid and B-complex vitamins; supplemental levels of biotin, vitamins A and E, and five important minerals (iron, chromium, manganese, copper and zinc); plus magnesium. Berocca Plus is not intended for the treatment of specific vitamin and/or mineral deficiencies.

Berocca Plus,
highly acceptable to patients, has virtually no odor or aftertaste and is economical. And its "Rx only" status means more physician involvement, better patient compliance.

References: 1. Shaw S, Lieber CS: Nutrition and alcoholism, chap. 40, in *Modern Nutrition in Health and Disease*, edited by Goodhart RS, Shils ME. Philadelphia, Lea & Febiger, 1980, pp. 1220, 1237. 2. Watkin DM: Nutrition for the aging and the aged, chap. 28, in *Modern Nutrition in Health and Disease, op. cit.*, p. 781. 3. Shils ME, Randall HT: Diet and nutrition in the care of the surgical patient, chap. 36, in *Modern Nutrition in Health and Disease, op. cit.*, pp. 1084, 1089, 1114. 4. Dixon RE: *Ann Intern Med 89* (Part 2): 749-753, Nov 1978. 5. Committee on Dietary Allowances, National Research Council: Recommended Dietary Allowances, ed 9. Washington, National Academy of Sciences, 1980, p. 13.

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BEFORE YOU WRITE OUR NEXT ANTIARTHRITIC PRESCRIPTION, PLEASE READ THIS MESSAGE



Boots announces a pharmaceutical first.

TWO WAYS YOU WILL SAVE MONEY WITH

Introducing

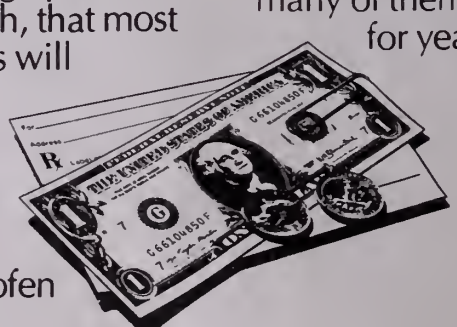
RUFEN® (ibuprofen)

$1.50 REBATE DIRECT TO YOUR PATIENTS ON EVERY PRESCRIPTION OF 100. REFILLS INCLUDED.

One dollar fifty cents returned for every Rebate Coupon your patients mail in.

Every bottle of 100 tablets of RUFEN 400 mg has a Rebate Coupon attached, with full instructions for redemption.

It has already been determined, through public opinion research, that most arthritic patients will appreciate direct rebate savings as much as they appreciate the results of ibuprofen therapy.



AND RUFEN IS PRICED LOWER TO BEGIN WITH.

Boots has already priced RUFEN lower to the wholesaler and the retailer. And if these savings are passed along, as they should be, your patient will receive the benefit of this lower price. Add these savings to the rebate, and your patients receive substantial relief from the costs of a medication many of them may take for years.

RUFEN IS NOT A GENERIC. BOOTS IBUPROFE IS THE ORIGINAL.

And if you wish, RUFE may be substituted for Motrin®, because it is bio equivalent.*

Original research by T Boots Company Ltd., of Nottingham, England, developed ibuprofen.

And though we introduced it ourselves elsewhere around the world, licensed ibuprofen for sale in the United States.

Motrin® (ibuprofen) is a registered trademark of The Upjoh

ARTHRITIC PATIENTS IBUPROFEN THERAPY.

You first came to know as Motrin (ibuprofen), manufactured by Upjohn. Now, as we have established facilities in America, we hope you'll come to know Boots brand name for ibuprofen as RUFEN.

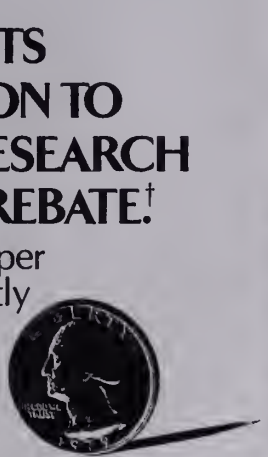
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That's why you may substitute RUFEN for Motrin.



ALSO: A BOOTS CONTRIBUTION TO ARTHRITIS RESEARCH WITH EVERY REBATE.†

A 25¢ contribution per rebate is built directly into the RUFEN program. And with thousands of prescriptions anticipated for RUFEN 400 mg each year, the annual potential for arthritis research is enormous.





Rufen® (ibuprofen)

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ontributions made to: International League Against Rheumatism.

WHEN YOU'RE WRITING YOUR NEXT PRESCRIPTION FOR IBUPROFEN, PLEASE REMEMBER:

RUFEN® OFFERS A $1.50 REBATE DIRECT TO YOUR PATIENTS ON EVERY BOTTLE OF 100 TABLETS OF RUFEN 400 MG.

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To ensure that your patients receive the benefits of the Rufen program, *be sure to specify* "D.A.W.," "No Sub," or "Medically Necessary," as required by the laws of your state.

Sincerely,

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(ibuprofen/Boots)

(For full prescribing information, see package brochure

RUFEN® Tablets
(ibuprofen)

INDICATIONS AND USAGE: Treatment of signs an symptoms of rheumatoid arthritis and osteoarthriti during acute flares and in the long-term managemen of these diseases. Safety and effectiveness have no been established for Functional Class IV rheumatoi arthritis.

Relief of mild to moderate pain.

CONTRAINDICATIONS: Patients hypersensitive t ibuprofen, or with the syndrome of nasal polyps, angio edema and bronchospastic reactivity to aspirin or othe nonsteroidal anti-inflammatory drugs (see WARNINGS)

WARNINGS: Anaphylactoid reactions have occurre in patients hypersensitive to aspirin (see CONTRAIND CATIONS). Peptic ulceration and gastrointestina bleeding, sometimes severe, have been reported Peptic ulceration and gastrointestinal bleeding, some times severe, have been reported. Peptic ulceratio perforation, or gastrointestinal bleeding can end fatall however, an association has not been established Rufen should be given under close supervision to patient with a history of upper gastrointestinal tract disease and only after consulting the ADVERSE REACTIONS

In patients with active peptic ulcer and active rheuma toid arthritis, nonulcerogenic drugs, such as gol should be attempted. If Rufen must be given, the patie should be under close supervision for signs of ulce perforation or gastrointestinal bleeding.

PRECAUTIONS: Blurred and/or diminished visio scotomata, and/or changes in color vision have been re ported. If developed, discontinue Rufen and administe an ophthalmologic examination.

Fluid retention and edema have been associated wit Rufen; caution should be used in patients with a histor of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolon bleeding time. Use with caution in patients with intrins coagulation defects and those taking anticoagulant

Patients should report signs or symptoms of gastroi testinal ulceration or bleeding, blurred vision or othe eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insu ficiency, patients on prolonged corticosteroid therap this therapy should be tapered slowly when adding Rufe

DRUG INTERACTION: *Coumarin-type anticoagulant* The physician should be cautious when administerin Rufen to patients on anticoagulants.

Aspirin. Concomitant use may decrease Rufen bloo levels.

PREGNANCY AND NURSING MOTHERS: Rufe should not be taken during pregnancy nor by nursin mothers.

ADVERSE REACTIONS

Incidence greater than 1%

Gastrointestinal: The most frequent adverse reactio is gastrointestinal (4% to 16%). Includes nausea*, epiga tric pain*, heartburn*, diarrhea, abdominal distres nausea and vomiting, indigestion, constipation, abdom nal cramps or pain, fullness of GI tract (bloating an flatulence). **Central Nervous System:** dizziness*, hea ache, nervousness. **Dermatologic:** rash* (includin maculopapular type), pruritus. **Special Senses:** tinnitu **Metabolic:** decreased appetite, edema, fluid retentio Fluid retention generally responds promptly to dru discontinuation (see PRECAUTIONS).

*Incidence 3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: gastric or duodenal ulcer with blee ing and/or perforation, hemorrhage, melena. **Centra Nervous System:** depression, insomnia. **Dermatolo ic:** vesiculobullous eruptions, urticaria, erythema mult forme **Special Senses:** amblyopia (see PRECAUTIONS **Hematologic:** leukopenia, decreased hemoglob and hematocrit. **Cardiovascular:** congestive hea failure in patients with marginal cardiac functio elevated blood pressure.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liv function. **Central Nervous System:** paresthesias, ha lucinations, dream abnormalities. **Dermatologic:** al pecia, Stevens-Johnson syndrome. **Special Senses** Conjunctivitis, diplopia, optic neuritis. **Hematologi** hemolytic anemia, thrombocytopenia, granulocytopen bleeding episodes. **Allergic:** fever, serum sickness lupus erythematosus syndrome. **Endocrine:** gyn comastia, hypoglycemia. **Cardiovascular:** arrhythmia (Sinus tachycardia, bradycardia, and palpitations **Renal:** decreased creatinine clearance, polyuria, azo temia.

OVERDOSAGE: Acute overdosage, the stomach shou be emptied. Rufen is acidic and excreted in the urin alkaline diuresis may benefit.

DOSAGE AND ADMINISTRATION: Rheumatoid a thritis and osteoarthritis, including flareups of chron disease: Suggested dosage 400 mg t.i.d. or q.i.d.

Mild to moderate pain: 400 mg every 4 to 6 hours a necessary for relief of pain. Do not exceed 2,400 m per day.

CAUTION: Federal law prohibits dispensing witho prescription.

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- **100% cure rate with Tegopen®** (cloxacillin sodium)
- **only a 60% cure rate with penicillin V-K**



As seen on admission



After one week of penicillin V-K therapy



Two weeks after initiation of TEGOPEN therapy

Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. *No* treatment failures occurred with Tegopen.

*Data on file, Bristol Laboratories.

Brief Summary of Prescribing Information

TEGOPEN®
(cloxacillin sodium)
Capsules and Oral Solution

For complete information, consult Official Package Circular (12) 9/11/75

INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

		Given Tegopen® (*cloxacillin sodium*)	Given *penicillin V-K*
Staphylococcus aureus	(78 patients)	39	39
Returned to clinic at one week		29†	38†
Treatment failure at one week		0	18 (47.4%)
Staphylococcus aureus* and *Streptococcus pyogenes	(9 patients)	4	5
Returned to clinic at one week		4	5
Treatment failure at one week		0	2 (40%)
No initial bacterial growth	(14 patients)	9	5
All 14 healed, regardless of which antibiotic was administered.			
Beta-hemolytic *Streptococcus*	(1 patient)	0	1
TOTALS:	**102 patients**	**52 patients**	**50 patients**

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus*, 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes*, and 1% beta-hemolytic *Streptococcus*.‡
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.
- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

‡The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

TEGOPEN®
(cloxacillin sodium)
–effective therapy for staph infections of the skin and skin structures

WARNING:
Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS:
The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS:
Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE:
Adults: 250 mg. q 6h.

Children: 50 mg./Kg./day in equally divided doses q 6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

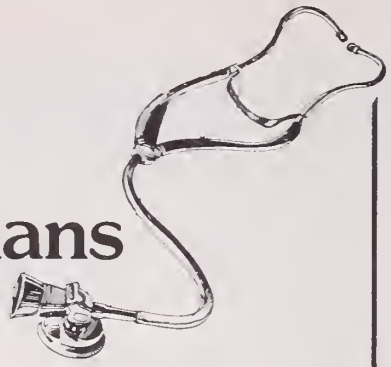
N.B.: INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

SUPPLIED:
Capsules—250 mg. in bottles of 100, 500 mg. in bottles of 100.
Oral Solution—125 mg./5 ml. in 100 ml. and 200 ml. bottles.

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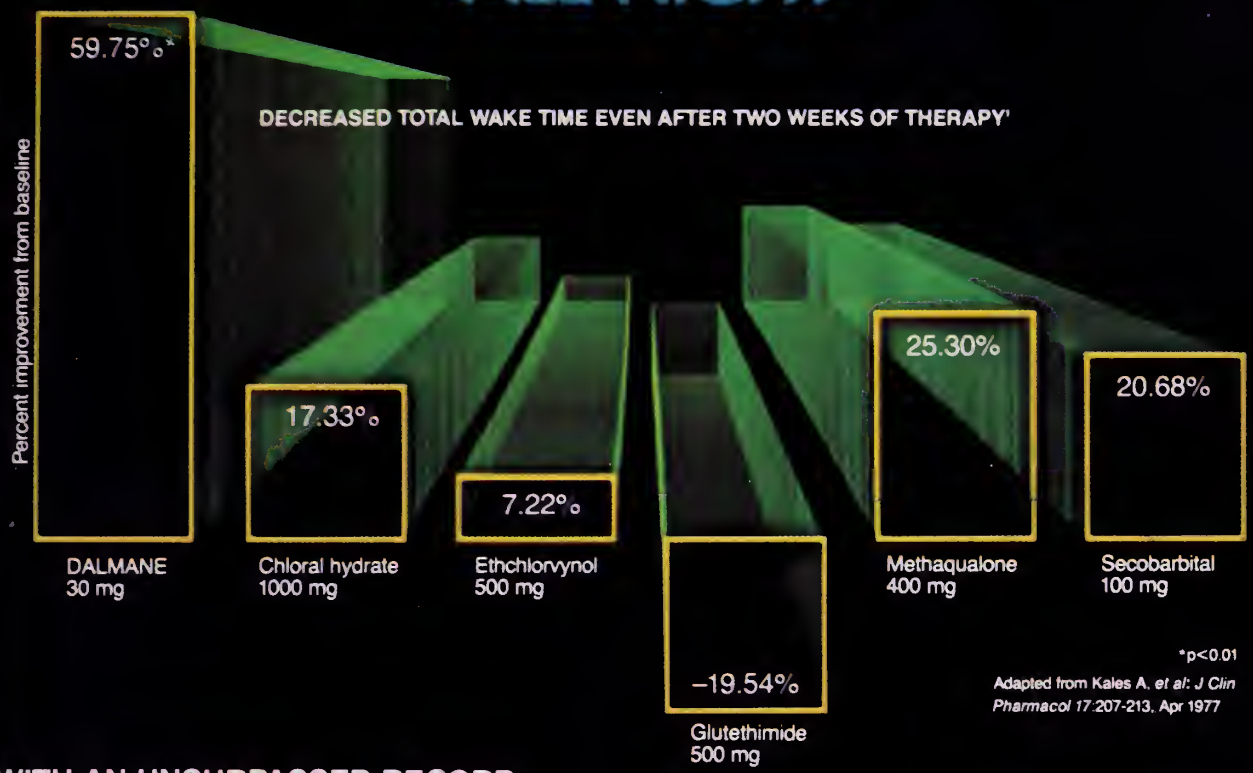
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Relative safety was demonstrated in a large study of 2542 hospitalized medical patients. Only 3.1% of these patients reported adverse reactions–predominantly unwanted residual drowsiness. None of the reactions were considered serious by attending physicians.[3]

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Rapid sleep induction, within 17 minutes on average, sets the stage for insomnia relief. And, after discontinuation of Dalmane for periods ranging up to 14 nights, no worsening of sleep compared with baseline was observed.[4]

Should insomnia recur, the patient may require guidance in setting up a regular sleep program to help provide the optimum environment for the onset of natural sleep. If hypnotic therapy is required, it should be given for the shortest time at the lowest effective dose to achieve the desired goal.

Consider other medications the patient may be taking (including alcoholic beverages) and be aware of possible drug interactions. Please note that patients should be treated for underlying physical or psychological factors before therapy with a sleep medication is undertaken.

DALMANE® (IV)

flurazepam HCl/Roche

THE STANDARD OF HYPNOTIC EFFICACY FROM THE LEADER IN SLEEP RESEARCH

ROCHE®

Please see reverse side for a summary of product information.



SLEEP-SPECIFIC
DALMANE® ©IV
flurazepam HCl/Roche

One 15-mg capsule *h.s.*–recommended initial dosage for elderly or debilitated patients.
One 30-mg capsule *h.s.*–usual adult dosage
(15 mg may suffice in some patients)

THE STANDARD FOR HYPNOTIC EFFICACY WITH IMPORTANT ADDED BENEFITS

- Well tolerated[1]
- No chemical interference with many commonly ordered laboratory tests, including triglycerides, uric acid, glucose, SGOT, alkaline phosphatase and total protein[2-6] (See adverse reactions section of complete product information.)
- Compatible with chronic warfarin therapy; no unacceptable fluctuation in prothrombin time reported[7,8]

UNLIKE NONSPECIFIC MEDICATIONS USED FOR SLEEP

Tricyclic antidepressants

–which are *not* sleep specific,[9] yet are sometimes used in nondepressed patients for sleep

–which can cause transient insomnia in the elderly[10]

–which can require careful monitoring in cardiovascular patients[10]

–which have strong anticholinergic effects[9]

Antihistamines

–which are *not* reliable sleep-inducing agents[11]

–which may produce stimulation instead[11]

–which have anticholinergic effects[11]

Major tranquilizers

–whose side effects may be troublesome for nonpsychotic patients[12]

–where tolerance for sedation appears rapidly[12]

Dalmane does not cause significant worsening of sleep beyond baseline levels upon discontinuation.[4]

References 1. Kales A. *et al. J Clin Pharmacol* 17 207-213, Apr 1977 **2.** Data on file. Medical Department, Hoffmann-La Roche Inc. Nutley NJ **3.** Greenblatt DJ, Allen MD, Shader RI. *Clin Pharmacol Ther* 21 355-361, Mar 1977 **4.** Kales A. *et al. Clin Pharmacol Ther* 18 356-363, Sep 1975 **5.** Moore JD, Weissman L. *J Clin Pharmacol* 16 241-244, May-Jun 1976 **6.** Spiegel HE. Data on file. Medical Department, Hoffmann-La Roche Inc. Nutley NJ **7.** Robinson DS, Amidon EL. Interaction of benzodiazepines with warfarin in man. in *The Benzodiazepines* edited by Garattini S, Mussini E, Randall LO. New York, Raven Press, 1973, pp 641-646 **8.** Warfarin Study. Data on file, Medical Department, Hoffmann-La Roche Inc. Nutley NJ **9.** Baldessarini RJ. Drugs and the treatment of psychiatric disorders, chap 19, in Goodman and Gilman's *The Pharmacological Basis of Therapeutics*, ed 6. New York, Macmillan Publishing Co, Inc., 1980, pp 391-447 **10.** Cole JO, Davis JM. Antidepressant drugs, chap 31.2, in *Comprehensive Textbook of Psychiatry II*, edited by Freedman AM, Kaplan HI, Sadock BJ, ed 2. Baltimore, The Williams & Wilkins Company, vol 2, 1976, pp 1941-1956 **11.** Douglas WW. Histamine and 5-hydroxytryptamine (serotonin) and their antagonists, chap 26, in Goodman and Gilman's *The Pharmacological Basis of Therapeutics*, ed 6. New York, Macmillan Publishing Co, Inc., 1980, pp 609-646 **12.** Davis JM, Cole JO. Antipsychotic drugs, chap 31.1, in *Comprehensive Textbook of Psychiatry II*, edited by Freedman AM, Kaplan HI, Sadock BJ, ed 2. Baltimore, The Williams & Wilkins Company, vol 2, 1976, pp 1921-1940

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in fall asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is gener not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnan Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for sever days following discontinuation. Caution against hazardous occupations requir complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusio and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, at and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been r occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorex euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatas and paradoxical reactions, e.g., excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect.
Adults: 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determine

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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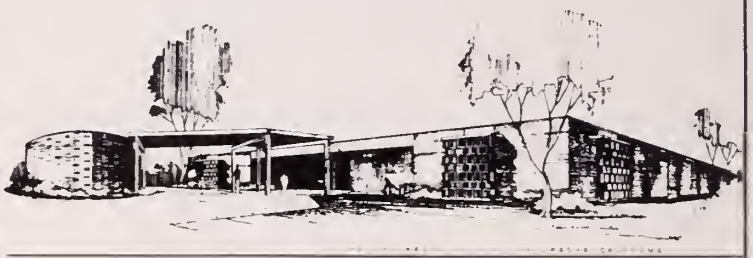
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Indications
Cyclacillin has less in vitro activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

RESPIRATORY TRACT
Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
Bronchitis and pneumonia caused by *S. pneumoniae* (formerly *D. pneumoniae*)
Otitis media caused by *S. pneumoniae* (formerly *D. pneumoniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae**
*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

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URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less in vitro activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
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Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight ≤ 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Bronchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

*Dosage should not result in a dose higher than that for adults.
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How Supplied Tablets 250 mg and 500 mg in bottles of 100. Oral Suspension 125 mg and 250 mg per 5 ml in bottles to make 100 ml and 200 ml of Suspension.

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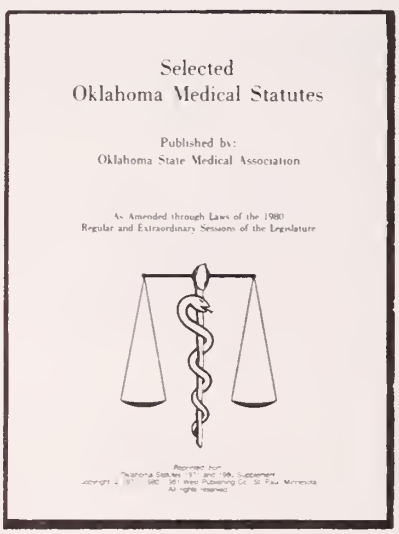
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The JOURNAL
of the Oklahoma State Medical Association

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Articles accepted for publication, including manuscripts of annual meeting papers, are the sole property of *The Journal* and must not have been published elsewhere. Authority for approval of all contributions rests with the Editorial Board, and the Board reserves the right to edit any material submitted. Manuscripts should be typewritten, double spaced and submitted in original and one copy. Receipt of manuscripts will be acknowledged and unused manuscripts returned. Used manuscripts will be returned on request. *The Journal of the Oklahoma State Medical Association* is not responsible for the statments or opinions of any contributor.

STYLE

Footnotes, bibliographies, and legends for illustrations should be submitted on separate sheets, double-spaced. Bibliographies should follow in order of: name and author, title or article, name of periodical with volume number, page and date of publication. These references should be numbered in the sequence in which they appear in the article.

ILLUSTRATIONS

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NEWS

Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession.

ADVERTISING

All advertising copy must be approved by the Editorial Board before acceptance for publication. General and miscellaneous advertising rates will be sent on request.

EDITING SERVICE

The Editorial Board reserves the prerogative to submit contributions to a Medical Editing Service when warranted. If such is felt necessary, the Editor will contact the author for approval, informing him that there will be a modest charge for this service.

REPRINTS

Authors will receive reprint order forms from the Transcript Press, P.O. Drawer 1058, Norman, Oklahoma 73070, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.

BACK ISSUES

Microfilm copies of back issues of *The Journal* may now be purchased from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

RP/MSS?

All of these letters look as though they might belong on a license plate. What do they stand for? They stand for the future of auxiliary! RP/MSS — Resident Physician/Medical Student Spouse — they are the latest category for membership in medical auxiliary but they've been around for a long time.

Most medical schools have active Student Medical Spouses' groups and Interns and Residents Spouses' Associations, but it's just been in the past three years that the national AMA has organized a program geared for this group — thus RP/MSS. The importance of this group of spouses to the AMA Auxiliary has been recognized as they are the ones who are the future leaders of the medical auxiliaries across the nation. The AMA Auxiliary publishes a newsletter especially for these spouses. It's called *Horizons* and contains information pertinent to their present and future situations. Some 5,000 spouses are now receiving this newsletter.

Several states have begun programs of sponsoring spouses of medical students and residents; this not only creates an impetus for membership but provides a sponsor who realizes their value and who cares enough to monetarily support the resident or student spouse for membership in auxiliary. It is the hope that by so doing, the gesture will be returned when that resident physician spouse is a regular member sponsoring another student spouse.

In Oklahoma we are going to try a similar-type program as most of you auxilians have probably heard. It isn't our intent to take away from their own organized groups which are so important to them in this phase of training but to add to by providing more contact with spouses of practicing physicians. The success of this program depends on you so if you haven't already answered your letter, do so promptly with a "yes, I wish to sponsor a spouse"!

February has been declared nationally as RP/MSS emphasis month and Oklahoma is using February 1st as the day we've designated for our official "sponsor a spouse" day. These spouses will be invited to attend the state board meeting that day for special recognition. We want them to be aware of their importance to the present and future of medical auxiliary. We do have something in common!

Join with me and lend a helping hand to those Resident Physician/Medical Student Spouses interested in learning more about and being a part of Oklahoma State Medical Association Auxiliary and their counties from which they join — let's all "Sponsor a Spouse in Oklahoma." *Sherry S. Strebel, President OSMA Auxiliary* □

The US Department of Health and Human Services has established a regional technical assistance program to assist hospital health care and social service providers in meeting civil rights requirements. The program will interpret executive orders related to Section 504, Title VI, and sex and age discrimination statutes. It includes videotapes, films, pamphlets and other printed materials to help health care providers understand the civil rights provisions. For information or assistance, contact Ralph D. Rouse, Regional Technical Assistance Staff, 1200 Main Tower Building, Room 1125, Dallas, TX 75202, telephone (214) 767-4123 or (214) 767-8940.

The American Society of Law & Medicine invites OSMA members to attend two upcoming conferences. On March 11-13, 1982, the society and the Institute for the Interprofessional Study of Health Law of the University of Texas will present a "Human Life Symposium" at the Shamrock Hilton Hotel in Houston, Texas. This conference will address the conflict and debate that surrounds the issue of when human life begins. On March 31-April 2, the society will sponsor a conference on the "Legal and Ethical Aspects of Health Care for Children" at the Biltmore Hotel in Los Angeles. Registration information for both conferences may be obtained from the American Society of Law & Medicine, 765 Commonwealth Ave, Boston, MA 02215, telephone (617) 262-4990.

The Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) will share the cost of wigs purchased by CHAMPUS users between December 1980 and September 1981 to cover baldness resulting from cancer treatment. The benefit, retroactive to December 15, 1980, is limited to a single wig for the patient's lifetime and does not include maintenance costs. CHAMPUS users must apply for the cost of the wig under the normal CHAMPUS claims procedure.

The Annual Spring Symposia in Gynecology and Obstetrics is set for May 13-14, 1982, at the Sheraton-Century Center Hotel in Oklahoma City. Highlighting the program will be an exposition of new and exciting developments in the obstetrics-gynecology field. Sponsors of the symposia include the Department of Gynecology and Obstetrics in conjunction with the Office of Continuing Medical Education, University of Oklahoma College of Medicine, and the Oklahoma State Department of Health.

OSMA member Edward R. Munnell, MD, past-president of the American Lung Association of Oklahoma, has been named to the Executive Committee of the American Lung Association (ALA). Dr Munnell, a member of the ALA Board of Directors since 1977, is a clinical professor of surgery in the University of Oklahoma College of Medicine. He is the first Oklahoman to be elected to the ALA Executive Committee.

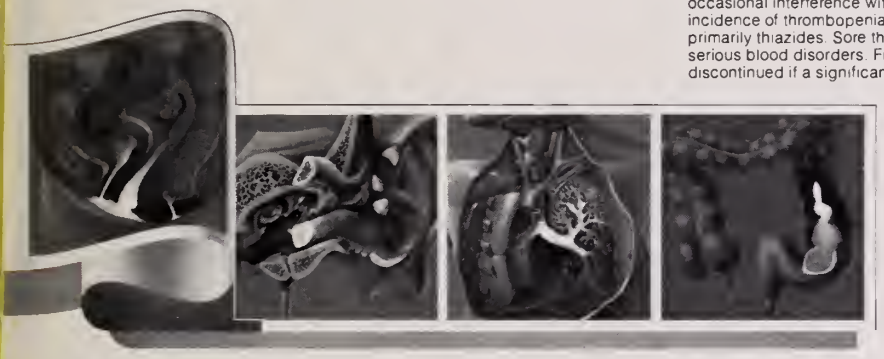
Dr Peter J. Levin of Stanford Medical Center has been appointed dean of the College of Public Health, University of Oklahoma Health Sciences Center. Levin assumed the post on January 1. Since 1977 he had served as associate vice-president for medical affairs at Stanford University Medical Center as well as executive director of the 663-bed Stanford University Hospital. Before that, he held high-level positions with several public health agencies, including the New York City Health Department, New Haven Health Care, Inc., The Bronx Municipal Center, and the US Public Health Service.

The American Medical Association is developing a Patient Medication Instructions program (AMA-PMI) through which written information about certain drugs will be made available to physicians for distribution with prescriptions to their patients. The AMA expects the written information to reinforce the physician's oral instructions to the patient and to increase consumers' knowledge about the drugs they are taking. The scientific basis for all statements made in AMA-PMIs will be drawn from the AMA's authoritative compendium **AMA Drug Evaluations** as well as from other reliable sources. The first group of AMA-PMIs should be available this spring. □

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For acute exacerbations of chronic bronchitis in adults due to susceptible strains of *Hemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over a single antimicrobial agent.

For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended, therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

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Dosage: Not recommended for infants less than two months of age.

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1. Rubin RH, Swartz MN: *N Engl J Med 303* 426-432, Aug 21, 1980. 2. Data on file, Medical Department, Hoffmann-La Roche Inc.

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JOURNAL *Oklahoma State Medical Association*



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The effectiveness of Valium (diazepam, Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.
Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.
Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression, or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation.
The clearance of Valium and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.
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Dosage: Individualize for maximum beneficial effect. *Adults.* Anxiety disorders, symptoms of anxiety, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed, adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients:* 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children:* 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).
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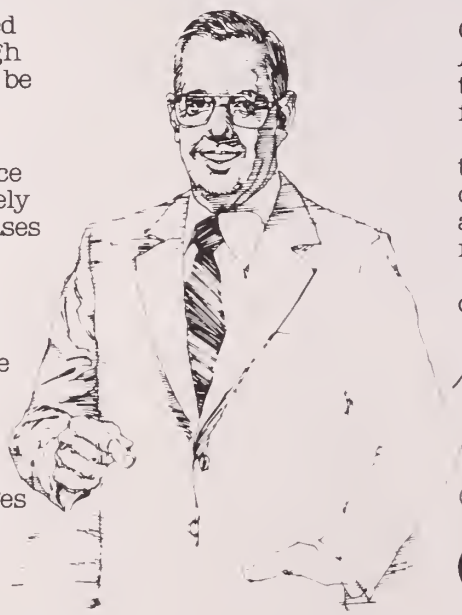
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Right Weapon — Wrong Target

I haven't read it yet, but the Surgeon General's recent report on the effects of cigarette-smoking must — judging from the media advances — be a real earth shaker. I join millions of other citizens and thousands of my colleagues in applauding the collective efforts represented in the report. It appears that some headway is being made in the struggle to curtail cigarette-smoking in this country. There can be no question that the habit of using tobacco in any form is dirty, expensive, offensive and unhealthy. So be it.

I must admit, however, that I am shocked hearing the Surgeon General himself say that cigarette-smoking is the leading preventable cause of death in this country. How any physician who has practiced medicine or worked in hospitals or been involved in public health affairs can make or believe such a statement is totally beyond my comprehension — unless, of course, he believes that the abuse and excessive use of alcohol is not preventable. Such a view would be inconsistent with an understanding of the chronic smoker's problem. Perhaps he believes that cigarette-smoking is the major cause of all forms of cancer, lung disease and heart disease. Such a view is hardly justified or supported by the available body of evidence.

Surely the Surgeon General is borrowing opinion when he states (cigarette-smoking) is ". . . the leading . . . cause of death . . ." I have never seen "cigarette-smoking" listed as a cause of death and I would be surprised if any of my colleagues has. I have, however, seen "chronic and/or acute alcoholism" frequently cited as a cause of death; correctly, literally, directly, unquestionably and irrefutably.

Even if the well-intentioned and honorable Surgeon General meant to imply that cigarette-smoking was — *in all probability* — the underlying cause of a host of incurable diseases, such a conviction is, in my opinion, unrealistic at best. It ignores the devastating and steadily rising toll — in dollars and in lives — of alcoholism, which long ago reached epidemic proportions in this and many other nations throughout the world.

Compare cigarette-smoking with alcohol-abuse as the underlying cause of street, highway and occupational accidents that lead to paralysis, maiming and death; the cause of chronic liver disease, gastrointestinal disease, kidney disease, afflictions of the central nervous system, dementia, malnutrition and the deaths relating directly to one or any combination of these disorders; the cause of criminal behaviour, murder, manslaughter, fatal battery, suicide, and the accidental deaths which result from the lethal combination of street drugs and alcohol. It is easy to see that — as a cause of death—the habit of smoking cigarettes is hardly in the race with the habit of drinking alcohol. Furthermore, I strongly suspect that the use of illicit drugs and even the willfull violation of vehicular traffic laws would be found several laps ahead of the smoking habit as a "leading preventable cause of death in this country."

As was noted in these pages many years ago, we seem to be firing cannons at gnats and pea-shooters at tigers. I do not fault our Surgeon General for his laudable efforts or even his personal bias, but I do wish he would switch weapons or change targets. With the multitude of ills in our society, deception is contraindicated.

It is even dangerous to our health. *MRJ*



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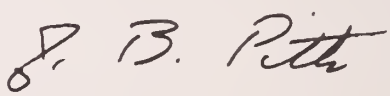
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Psychosocial & Neural Mechanisms in Health & Disease Historical Perspectives

STEWART G. WOLF, MD

The balance of neural regulatory mechanisms, subject to many influences including social forces, is emerging as a crucial determinant of health or disease.

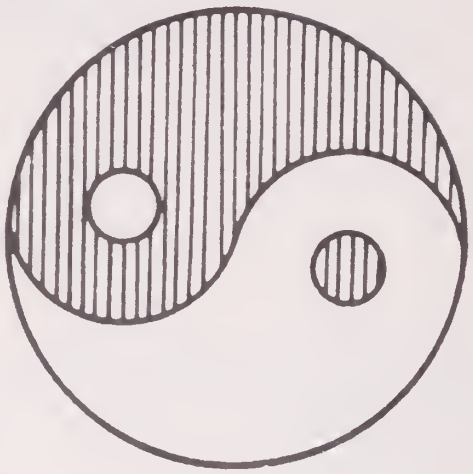
Ten years ago at this meeting I reviewed the historical development of the concept of psychosomatic medicine and pointed out that Cicero, one of the early thinkers in the field, had the temerity to challenge the views of Hippocrates.[1] Hippocrates believed that psychological manifestations were reflections of bodily processes and that emotions were the result of the different biles and other humors. Cicero challenged that view, maintaining that the emotions precede bodily changes. Perhaps both were correct since we now know on the one hand that an injection of epinephrine can produce anxiety, and on the other we know that spontaneous anxiety is accompanied by an increase in circulating catecholamines. That is not too surprising, since every change must have an underlying mechanism. Nevertheless, the mind-body dilemma has been a source of concern and confusion for a long time. It has fascinated medical scientists for centuries but it has really never been thoroughly, comfortably resolved. When for example, Aristotle outlined his five senses he did not include pain because pain to him was a passion of the soul — an emotion — therefore it had to be considered as separate from the body, independent of the processes that govern bodily function.

The ancient Chinese were responsible for initiating many useful ideas including the idea of balance from which they evolved the concept of the yin and the yang. (Fig 1) The maintenance of health was thought to depend on the proper relationship of these two elemental forces. Any disruption, rapid change, for example, could lead to imbalance with potentially serious consequences.

Change had been recognized as disrupting for centuries, even by Hippocrates, who 2500 years ago made the statement, "Those things which one has been accustomed to for a long time, although worse than the things one is not accustomed to, usually give less disturbance."[2]

In the 1930's a British physician named Donnison, who had been working for many years as a physician in black Africa, made a

Annual History of Medicine Lecture, delivered on March 20, 1981 at the University of Oklahoma Medical Center.



Yin and Yang

Fig 1. The traditional representation of Yin and Yang.

startling discovery. In those areas of black Africa where there had been little or no connection with western civilization, he found no instances of coronary disease, hypertension, rheumatoid arthritis or peptic ulcer. His finding might have been attributed to a genetic difference except that these diseases were evident among members of the same tribe living in areas that had come under the influence of western civilization. That keen observation led him to write his book, *Civilization and Disease*.[3] Rene Dubos who had spent most of his scientific life at the Rockefeller Institute in New York studying the tubercle bacillus, came to the conclusion that there were many factors involved in susceptibility to tuberculosis, in addition to the tubercle bacillus, itself. He observed that outbreaks of tuberculosis correlated most clearly with social disruption, or rapid social change.[4] He drew the implication that social stability tends to protect even against microbial agents of disease.

There have been other studies of communities, relatively stable communities, that have experienced rapid social change. We had an opportunity to study a community in Pennsylvania called Roseto, settled in 1882 by Italians.

The early immigrant Italians expected to be absorbed in the great melting pot of America when they arrived, but instead they were shunned and isolated by the Welsh people who already lived in that region. The Italians, therefore, developed their own exclusively Italian enclave and ultimately incorporated their community.

In the early 1960's a group of us from Oklahoma found in Roseto a very low incidence of death from myocardial infarction. After looking into the usual risk factors and finding that they did not differ from those in surrounding communities and, being very much impressed with the cohesive social pattern of the community, we predicted that if and when Rosetans gave up their traditional attitudes, values and practices they would ultimately lose their relative immunity to fatal coronary disease. As many of you know the prediction has been borne out over the years.[5]

Together with modernizing or Americanizing social changes, there has been an increase in the death rate from myocardial infarction. Fig 2 shows a Rosetan family at table. The patriarchal pattern and the unifying attitudes are evident in the picture. Fig 3 shows the beginning of a religious procession on the day of the festival of Our Lady of Mt Carmel, the patron saint of Roseto. Roseto is a devout, stable, traditional society in which the inhabitants were mutually supportive. Fig 4 shows the faithful marching. They marched two miles down and back on the main road, Garibaldi Avenue. During the early years of our study, many of the older ladies walked barefoot, not because they didn't have shoes but because they wanted to demonstrate their humility and their gratitude to the Blessed Mother for the good luck they had in establishing themselves in this country. With the changing mores in Roseto, however, and the associated increase in myocardial infarction, there have been fewer and fewer people marching in the annual religious proces-

---

Stewart G. Wolf, MD, was graduated from Johns Hopkins University School of Medicine in 1938 and is presently Professor of Medicine, Temple University, PA. Chairman of the Scientific Advisory Center, Muscular Dystrophy Association, Dr Wolf is also a member of the Association of American Physicians, American Physiology Society, American Society of Clinical Investigation, American Gastroenterology Association and American Heart Association.

sion. Today most of them sit in chairs on the sidewalk, watching and no one is barefoot.

A few years ago I had an opportunity to visit Brunei, Borneo on the Alpha Helix, the research vessel of the Scripps Oceanographic Institution. My objective was to study the jungle tribes and to see what rapid social change might have brought about there.[6] Brunei is a small area on the northern coast of Borneo. The sultan of Brunei used to own the whole island but over the centuries, he gave a lot of it away, especially to Raja Brooke. Fig 5 shows a river highway into the jungle of Brunei. The rivers are navigated by very narrow boats that accommodate only very slender people. Fig 6 shows a view of the top of a long house where as many as 150, 200 or 300 people live together as extended families. Like the Rosetans in the early years, the Iban, as they are called in Borneo, have held tenaciously to their traditional ways, their animistic religion, their social customs, beliefs, values and attitudes. Fig 7 shows a gathering in a long house. There is one long living room on one side of the reed and straw building and on the other about five bedrooms to accommodate several of the families. Fig 8 shows Dr Moran a British physician with whom we worked. He had been caring for the people of the jungle tribes for the previous 13 years. Fig 9 illustrates the traditional behavior of these extraordinarily artistic people and Fig 10 shows the brass instruments that are played by the women. There have been social changes



Fig 2. A Roseto family at table (photo by Steve Shapiro).



Fig 3. Procession in honor of Virgin Mary (photo by Remsen Wolff).



Fig 4. The faithful marching (photo by Remsen Wolff).

in Borneo as shown in Fig 11, the oil rig shown is not off the coast of Texas or Louisiana but off the coast of Brunei. Since the early 1960's there has been an incredible flow of money into that community, so rapid that it has been totally impossible to spend it all. The sultan, the current ruler of Brunei, is a member of the same family that was governing when Magellan's ship pulled into the Brunei river after Magellan had been killed in the southern Phillipines. Presumably the ruling dynasty extended even further back than that.

I must digress to say how clever these orientals are. One problem with dynasties is that when the head man dies sometimes there is confusion. Sometimes the person who has been appointed to succeed to the throne does not get the job. The way in which the sultans of Brunei have insured the proper succession is for the sultan to abdicate when he gets into his 50's. As a successor, the sultan selects a relative, usually his son but not necessarily his oldest son. During the transition period, the former sultan is still on hand and capable of exerting power so that by the time he dies the new regime has become stabilized. Fig 12 shows the incidence of several diseases that decreased remarkably in Brunei over the years. The decrease appears to be due in large part to the



Fig 6. A long house in Brunei jungle (photo by Hedda Morrison, courtesy of Borneo Literature Bureau).

remarkable helicopter medical service that visits every long house community at least six times a year and more frequently if there is a need for medical attention. In the case of prenatal care, for example, the medical facility keeps in contact with the long house by radio



Fig 5. A river highway in Brunei (photo by Tom Wolf).



Fig 7. A gathering in a long house (photo by Hedda Morrison).

and stands ready to send a helicopter out at any time. Fig 13 shows the population number and the death rate in Brunei. The increase in population is not due to immigration but to a decrease in infant mortality.

The major social change in Brunei is the universally available schooling. The sultan, by putting school rooms in areas of all of the long houses, is now turning what has been an illiterate population into a literate one. Schooling is compulsory and the schools are free for all people. The teachers are imported from England, Australia, India and other English speaking countries.

I suspect that in the wake of social changes, the new generation may abandon traditional values and practices in an even more drastic way than they have in Roseto. I hope at that time the sultan will let me return to Brunei to learn whether in Borneo there will be a replication of Donnison's findings in black Africa, that our common chronic diseases appear when formerly highly stable societies are influenced by Western ways.



Fig 10. Traditional musical instruments (photo by Hedda Morrison).



Fig 8. Dr Moran holding clinic (photo by Tom Wolf).



Fig 9. Artistic work by Brunei women (photo by Hedda Morrison).

The message from these and other studies of this nature seem to be that social cohesion, good morale, and a well-defined place for everyone in the social order are conducive to health and that the converse enhances vulnerability to disease. Such a concept is not widely accepted. Perhaps it will not be until we understand about the mechanisms that are involved. As J.B.S. Haldane once wrote, "Prog-



Fig 11. Oil rig off the coast of Brunei (photo by Tom Wolf).

ress in medicine depends upon understanding how the human organism adapts to changes in his environment."[7] Information on that subject has begun to accumulate rapidly.

We observed one such adaptation a few years ago while taking blood from transfusion donors. The withdrawal of blood is accompanied by a peripheral vasoconstriction which compensates for the reduced blood volume,

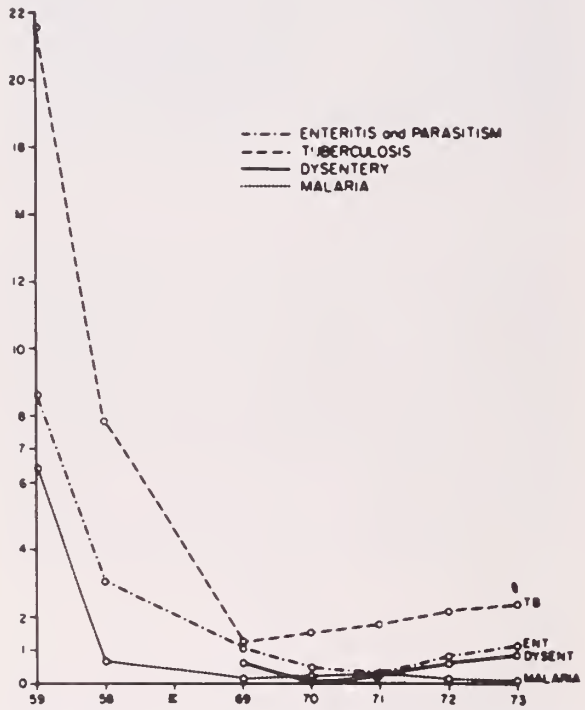


Fig 12. Decreasing incidence of diseases over the years in Brunei.

thereby maintaining normal circulation. This reflex adaptation is mediated at the medullary level of the brain. We observed, however, that the transfusion donors developed their peripheral vasoconstriction prior to the blood being drawn. This anticipatory response requires central nervous system circuitry above the medullary area. It requires involvement of the frontal lobes that interpret what is about to happen. Fig 14 shows that the mere approach of the needle was sufficient to induce the elevation of systolic and diastolic pressure in this individual who was about to give blood for transfusion.

We also noted such peripheral vasoconstriction without the anticipation of blood letting

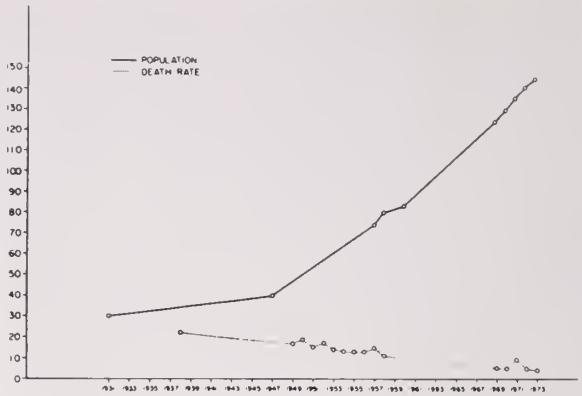


Fig. 13. Death rate and population growth in Brunei.

but during an emotionally stressful circumstance.Fig 15 shows that in a normotensive individual a brief discussion of his wife elicited a dramatic rise in his systolic and diastolic pressures.[8] Later on, a little discussion about paying a fee caused the same response. On the other hand during a discussion of working on his thesis, an activity that gave him satisfaction, his blood pressure fell to normal. We were able to show further that not only the systolic and diastolic pressure as measured in the arm may be altered during emotional stress, but also involved may be the circulatory dynamics of the kidneys. Figure 16 shows a reduction in effective renal plasma flow during a stress interview. In this case the reduction of renal plasma flow actually persisted beyond the period of blood pressure elevation. Such "as if" reactions, as well as anticipatory reactions, reflect involvement of the neural circuitry in

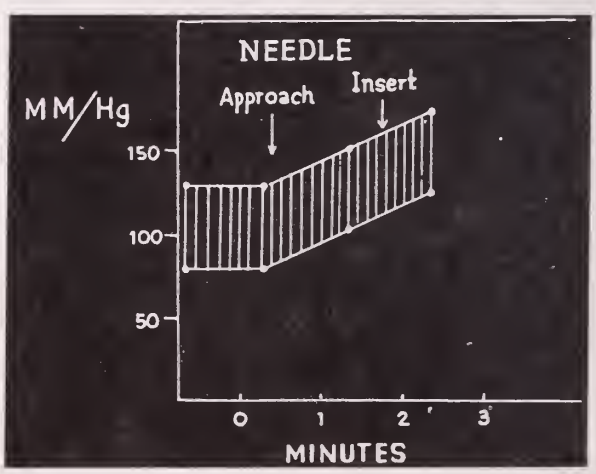


Fig 14. Rise in blood pressure at the approach of a phlebotomy needle.

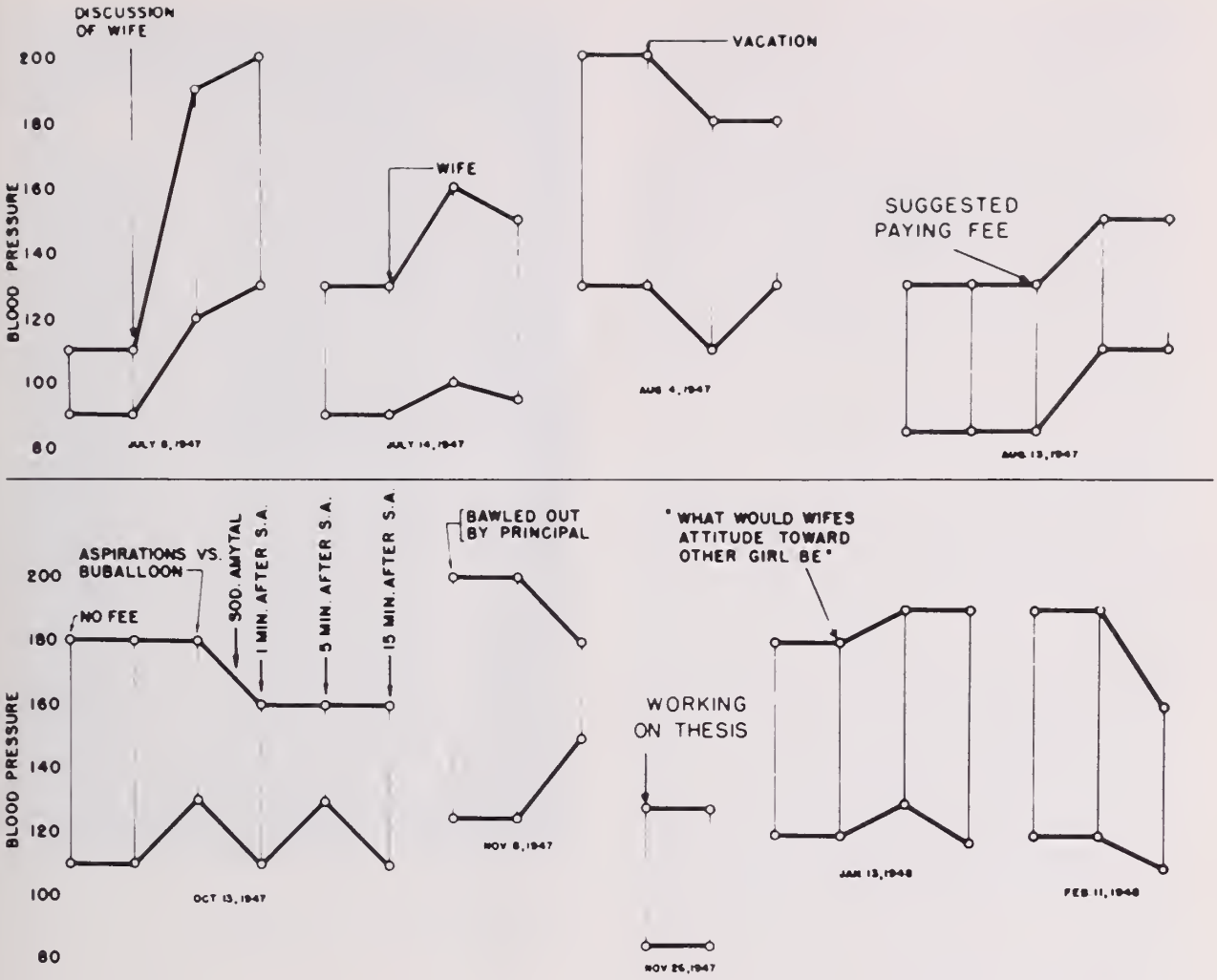


Fig. 15. Rise in blood pressure during discussion of stressful topics.

the frontal lobes. Neurophysiologists are now unravelling at a rather rapid pace the circuitry involved in these processes. It looks as though this crazy dilemma about mind and body will ultimately come together — possibly in our lifetime.

Approximately 100 years ago, Danilewski showed a striking change in heart rate induced by stimulation of the cerebral cortex of animals.[9] His report was criticized, disbelieved and ultimately ignored. Many years later it became readily demonstrable that stimulation in the frontal lobes could alter several cardiovascular and other kinds of adjustment.

Progress toward tracing the pathways responsible for such effects as Danilewski demonstrated, began with the discovery by Ramon y Cajal and Camillo Golgi of ways to stain neurons. Progress was further accelerated when in 1949 Ling and Gerard reported their ability to record action potentials from inside a single muscle fiber and later from single units in the central nervous system.[10] Since then, technologic development in the study of the circuitry of the brain and of the relationship of brain mechanisms to behavior has been so rapid as to be dizzying, especially since the demonstration by LaVail & LaVail that horseradish peroxidase could travel retrograde in the brain through the entire course of the axoplasm thereby to outline the pathways and connections of neurons.[11] Other recent contributions have included the identification, localization and manipulation of neurotransmitters and the clear demonstration of the importance of inhibitory systems in the

overall process of regulation of human behavior.

Although Danilewski's demonstration of cerebral control of visceral function was amply confirmed, the question remained whether cerebral stimulation could produce actual tissue effects. One of the cleanest demonstrations of this was by Dr C. G. Gunn who with Friedman and Byers demonstrated that sterotaxic stimulation in the area of the hypothalmus greatly accelerated the appearance of atheroma in the aorta of rabbits fed an atheromatous diet.[12] See Fig 17.

These demonstrations have contributed to the concept that disease is a matter of disordered regulation. Some of the most interesting aspects of regulation have to do with the role of inhibitory circuits. Normally there is a balance between excitatory and inhibitory activity. For example, inhibitory activity is responsible for some of the difference in music produced by a player piano from that produced by a great pianist. It is not that different notes are hit — the difference lies in modulation. The player piano can only activate the keys in the proper order. In contrast the artistry of Artur Rubinstein depends on the way he restrains or accentuates his touch. Similar modulation explains the grace in the dancing of a fine ballerina. In autonomically innervated structures there is also modulation of effects produced by inhibitory circuits.



Fig 17. Accelerated aortic atheroma induced by brain stimulation (left) control on right.

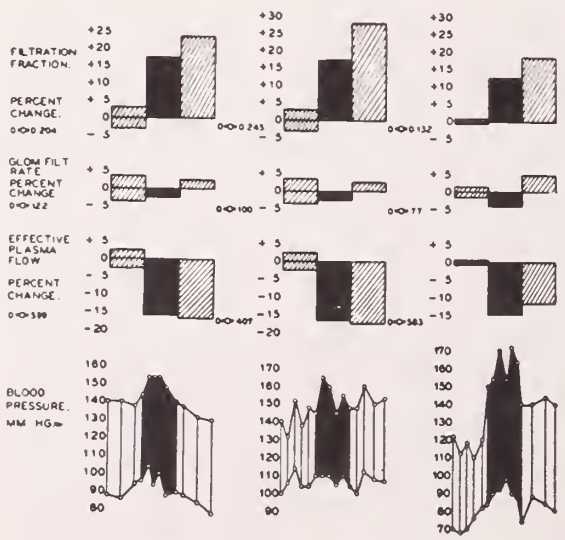


Fig 16. Reduction of renal blood flow accompanying blood pressure rise during stress interview.

As more and more has been learned about facilitatory and inhibitory regulation of synaptic transmission at every level of the nervous system, the concept of reflex control of visceral function has given way to a concept of neural interaction in which virtually all parts of the nervous and endocrine systems are interconnected, so that local perturbations may have widespread effects. Studies have clearly revealed that the somatic and visceral pathways are not two systems after all but a single system in a state of continuous dynamic interaction as behaviors are initiated, maintained and modified.

MODULATION AND ILLNESS

It is, therefore, reasonable to state that the regulation of behaviors of all sorts requires a balance of excitatory and inhibitory influences. This principle, reminiscent of the yin and yang

of the ancient Chinese, is applicable to all aspects of human behavior. Behavior involving viscera as well as skeletal muscles must be modulated, damped to some extent, in order to be maximally adaptive.

The rapidly growing understanding of the importance of modulation of all bodily functions arouses the speculation that failure of restraints or a defective balance between excitatory and inhibitory mechanisms may be responsible for a multitude of disorders. Among them may be included pathologic aggressiveness, alcoholism, epilepsy and visceral disturbances such as the almost continuous gastric secretion of hydrochloric acid and proteolytic enzymes characteristic of duodenal ulcer. So also may be the sustained contraction of initially normal arterioles in hypertension, or the exaggerated ratio of destruction to production of red blood cells in hemolytic anemia as well as aberrations in other bodily systems such as the cardiac arrhythmias that lead to sudden death.

One may conclude that there is a growing recognition that people may react to the slings and arrows of outrageous fortune, to troublesome people and events in their lives with alterations in the regulation of certain bodily organs that may have important implications for their health. Good health appears to depend to some extent on the social setting, on the circumstances under which on lives, on one's degree of satisfaction and fulfillment, and on the support and approval of one's fellows. It may be no accident that great orchestra conductors live such long and healthy lives. They regularly experience the demands of physical exercise and demands on their creative aesthetic and intellectual powers. They also have the feeling of being needed; even of being indispensable; they have power in their control over a big orchestra and they enjoy the approbation, applause and support of their audience. To a substantial degree, then, we may say that health equates with morale.

REFERENCES

1. Wolf, S.: Historical Perspectives of Psychosomatic Medicine, *J. Okla. State Med. Assn.* 317-322, July, 1971.
2. Hippocrates: *Works of Hippocrates: medical classics.* **Vol. 3** Baltimore: Williams & Wilkins, 1938.
3. Donnison, C. P.: *Civilization and Disease.* Baltimore: William Wood & Co., 1938.
4. Dubos, R.: Biological and social aspects of tuberculosis. *Bull. N Y. Acad. Med.* **27:**351, 1951
5. Bruhn, J. G., Wolf, S.: *The Roseto Story.* University of Oklahoma Press, 1979
6. Wolf, S., Wolf, T.: A preliminary study in medical anthropology in Brunei, Borneo. *Pov. J. of Bio. Sci.* **13:**42-54, 1978.
7. Haldane, J. B. S., Priestley, J. G., *Respiration.* London: Oxford University Press, 1935.
8. Wolf, S.: *Social Environment and Health.* University of Washington Press, 1981.
9. Danilewski, B.: Experimentelle beitrage zur physiologie des Gehirns. *Pflugers Arch.* **11:**128, 1875.
10. Ling G., Gerard, R. W.: Normal membrane potential of frog sartorius fibers. *J. Cell Comp. Physiol.* **34:**383-396, 1949.
11. LaVail, J. H., LaVail, M. M.: Retrograde intra-axonal transport of horseradish peroxidase in the chick visual system: a light and electron microscopic study. *J. Comp. Neurol.* **157:**303-358, 1974.
12. Gunn, C. G., Friedman, M., Byers, S. O.: Effect of chronic hypothalamic stimulation upon cholesterol-induced atherosclerosis in the rabbit. *J. Clin. Invest.* **39:**1963-72, 1960.

St. Luke's Hospital, Bethlehem, Pennsylvania 18015.

A SURVEY OF INTRAVENOUS CANNULA USE AT PRESBYTERIAN HOSPITAL, OKLAHOMA CITY

DANIEL J. SEXTON, MD
SIDNEY J. GRAVNEY, MPH

A prospective study was conducted to survey intravenous (IV) use at Presbyterian Hospital (Oklahoma City) during a five-week period. Plastic cannulae were used in 97% of all IV insertions. Sixty percent of all cannulae were in place for 24 hours or less. The incidence of phlebitis increased significantly with the duration of cannula use.

I. INTRODUCTION

Intravenous (IV) therapy has become an integral part of the care of hospitalized patients over the past 35 years. Despite the potential hazards of IV cannulae, physicians sometimes ignore the details and implications of IV therapy used in their patients.

We undertook a five-week prospective survey designed to evaluate the current methods of IV therapy at Presbyterian Hospital in Oklahoma City. The results were used to make recommendations concerning the hospital IV therapy program.

II. MATERIALS AND METHODS

The study was conducted during a five-week period from June 6, 1980 to July 11, 1980. Presbyterian Hospital is a 407-bed acute care teaching hospital in the Oklahoma Health Sciences Center. A five percent random sample (using a random numbers table) was selected from all patients admitted during this time period. Patients were studied from all fourteen wards or units in the hospital. Each ward was visited daily. The following data were obtained from each patient: age, sex, race, date of birth, unit, attending physician, dates of admission and discharge, whether or not the patient received IV therapy, the number of IV's, type and size of cannulae used, the presence or absence of phlebitis, who inserted the IV, whether any blood products were administered, and whether the patient had surgery. All patients were followed until their date of discharge.

During the daily visits to the wards the IV sites were inspected for the presence of phlebitis. We defined phlebitis as the presence at the insertion site of at least two of the following signs of inflammation: (1) erythema, (2) tenderness, (3) warmth, (4) edema, (5) induration and (6) purulence.

III. RESULTS

Ninety-three patients with a mean age of 42.1 years (range: newborn to 94 years) were

Table 1

CHARACTERISTICS OF PATIENT GROUPS

	Scalp-vein	Plastic Catheter	Total
No. of Patients	4	67	71
No. of Insertions	4	132	136
Age (years)			
Mean	20.25	43.0	42.3
Median	13	32	—
Range	2 to 53	1 to 94	1 to 94
Duration (hours)			
Mean	15.7	31.1	30.6
Median	9.4	19.9	—
Range	.25 to 47.7	.5 to 244.7	.25 to 244.7
Phlebitis (per insertion)	0	12	12
Cannula Usage			
IV-team	2	60	62
Non-team	2	72	74

studied. The sample consisted of 33 males (35.5%) and 60 females (64.5%). During the study period, 1850 people were admitted to the hospital, 39.5% males and 60.5% females.

Seventy-five patients (80.6%) received IV therapy. Four patients were eliminated from this analysis because of insufficient data. A total of 136 cannulae were inserted in 71 patients, four scalp-vein (3%) and 132 plastic catheter (97%). (Table 1) The average number of cannulae per patient was 1.91. Twenty-seven patients (38%) received blood products and forty-nine (69%) had surgery.

Cannulae were in place from 0.25 to 244.7 hours (mean = 30.5 hours). The mean duration of scalp-vein needles was 15.7 hours and for plastic catheters it was 31.1 hours. None of the scalp-vein needles were left in place for more than 72 hours whereas eight of the plastic catheters were. (Table 2)

Table 2

DURATION OF IV THERAPY (BY INSERTION)

	≤ 72 hours		> 72 hours		Total	
Type of needle	No.	%	No.	%	No.	%
Scalp-vein	4	3	0	0	4	3
Plastic Catheter	124	97	8	100	132	97
TOTAL	128	94	8	6	136	100

Table 3

DURATION OF IV THERAPY BY SERVICE

	≤ 24 hrs.		24-48		48-72		> 72 hrs.		TOTAL	
Service	No.	%	No.	%	No.	%	No.	%	No.	%
Ob-Gyn	14	18	3	11	1	5	0	0	18	13
Surg. Subspec.	19	24	2	7	5	24	0	0	26	19
Gen. Surgery	11	14	13	46	6	29	1	13	31	23
Medicine	34	43	9	32	9	43	7	88	59	43
Pediatrics	1	1	1	4	0	0	0	0	2	1
TOTAL	79	58	28	21	21	15	8	6	136	100

Analysis was made of duration of IV therapy by service. (Table 3) The five services involved were Obstetrics/Gynecology, Surgical Subspecialties, General Surgery, Medicine, and Pediatrics.

Seventy-nine of the 136 cannulae were in place for 24 hours or less. Seven of the 59 cannulae on the medicine service had IV's in place for more than 72 hours. Also, seven of the eight IV's (88%) in place for more than 72 hours were on the medicine service. One patient on the medicine service had 19 IV's.

A similar analysis was made for duration by unit. Six (19%) of the 32 cannulae used in the Cardiac Care Unit (CCU) were in place for more than 72 hours.

Of the 136 insertions, 12 resulted in phlebitis (9%). Two of these 12 were in place 24 hours or less whereas the remaining cannulae were in place over 24 hours. All cases of phlebitis involved plastic catheters. These 12 insertions were analyzed by who inserted the IV (IV team vs non-IV team). It was found that six insertions were made by the IV team. The remaining six were inserted by hospital staff in Emergency (1), Operating Room (2), Chemotherapy (1) and CCU (2). The twelve cases of phlebitis occurred on three of the five services — Medicine, General Surgery, and Surgical Subspecialties.

Of the people who had IV's in place for more than 72 hours, one-half developed phlebitis. However, only 2.5% of the patients with IV's in place for 24 hours or less developed phlebitis. Using the Wilcox, or two-sample, test the distribution of the hours of cannula placement in patients developing phlebitis was significantly displaced to the right of that for those who did

Table 4

PHLEBITIS BY DURATION OF CANNULA USE

	Number with Phlebitis		Number with No Phlebitis		TOTAL	
Hours	No.	%	No.	%	No.	%
24 hrs. or less	2	3	77	97	79	100
24 to 48 hrs.	2	7	26	93	28	100
48 to 72 hrs.	4	19	17	81	21	100
Greater than 72 hrs.	4	50	4	50	8	100
TOTAL	12	—	124	—	136	—

$X^2 = 23.575$
$p \leq .0001$

not develop phlebitis ($p < .0002$). The mean values were 86.2 hours and 25.3 hours respectively.

The hours of cannula placement were divided into four groups (24 hours or less, 24-48 hours, 48-72 hours, and greater than 72 hours) in order to determine the relationships between those who did and did not develop phlebitis. There was a significant relationship between increasing length of time the IV remained in place and the probability of developing phlebitis. (Table 4)

IV. DISCUSSION

In hospitals where cannulae are not routinely removed within 72 hours of insertion, plastic catheters are more hazardous than steel needles. However, plastic catheters provide a distinct advantage in individuals receiving blood products or anesthesia or in those requiring a secure IV access because of a life-threatening illness.[4-7] In contrast, steel needles are more prone to infiltration and their lower rate of phlebitis may be secondary to the fact they are less likely to remain in place for greater than 48 hours. Our study demonstrated a significant increase in phlebitis with increasing duration of catheterization.

We found that scalp-vein needles were used in only 2.9% of the sample. Approximately 60% of all cannulae used in Presbyterian Hospital were left in place for 24 hours or less. Also, only 38% of the patients receiving IV therapy required blood products. Since long-term IV therapy is not required in the majority of the patients, scalp-vein needles are substantially underutilized in our hospital. We recommended that steel needles be used in the majority (at least 60%) of the cases receiving IV therapy.

Steel needles are cheaper than plastic cannulae and in numerous studies have been associated with fewer complications.[6, 7, 9, 13-16] In our study, the average number of cannulae per patient was 1.91. We project that in one year a total of 29,618 cannulae will be used at our institution. (Table 5) In our institution, a plastic cannula costs the patient $2.00 more than a steel needle. If steel needles were used more extensively, even more cannulae would likely be inserted since steel needles reliably stay in place for shorter time periods than plastic cannulae. However, 60% of the plastic cannulae used in our hospital were in place for 24 hours or less. Substituting steel needles in these instances would result in considerable cost savings.

Many factors contribute to the development of phlebitis, including (1) type of cannula, (2) cannula size and length, (3) duration of cannula at site, and (4) anatomic location of the

Table 5

SURVEY FINDINGS AND ONE-YEAR ESTIMATES FOR PRESBYTERIAN HOSPITAL

	Actual Number	Percent of Total	Estimated Total for One Year
Patients receiving blood products	27	38	5,893
Steel Needles	4	2.9	859
Plastic Catheters	132	97.1	28,759
Cases of Phlebitis	12	8.8	2,606
Duration of 72 hours	8	5.9	1,747

Daniel J. Sexton, MD, was graduated from Northwestern University Medical School in 1971. He is certified by the American Board of Internal Medicine, Infectious Diseases; a Fellow of the American College of Physicians; a member of the Infectious Disease Society of America; and, the American College of Physicians.

Sidney J. Gravney received his MPH degree from the University of Oklahoma in 1981. He is a member of the American Society of Clinical Pathologists and the American Public Health Association.

cannula. In numerous studies the incidence of phlebitis has been greater with plastic than with steel cannulae.[1, 2, 5, 7, 8, 11, 12] In our study, the incidence of phlebitis with scalp-vein needles was 0.0% as compared to 8.8% with plastic catheters. Based on this survey, we estimate 2,606 cases of phlebitis occur per year at Presbyterian Hospital. (Table 5) By reducing the number of plastic catheters used or by limiting the use of individual plastic catheters to less than 72 hours, the number of cases of phlebitis should be reduced considerably. In hospitals with good IV teams that provide consistently careful local care and assure that plastic catheters are not left in place more than 72 hours, the difference in complication rate between steel and plastic catheters may be minimal. However, many community hospitals do not have rigidly supervised IV teams and in these instances steel needles are safer and perhaps less expensive.

V. SUMMARY

We conducted a prospective random study surveying IV use at Presbyterian Hospital during a 5-week period from June 6 to July 11, 1980. We showed that plastic cannulae were used in 97% of all insertions. Sixty-percent of all cannulae were in place for 24 hours or less. Except for patients who need blood products, anesthesia, or who are critically ill, scalp-vein needles should be used in a higher percentage of patients; as an alternative, all plastic cannulae should be removed within 72 hours. The use of more scalp-vein needles should reduce the cost of IV therapy.

ACKNOWLEDGEMENTS

The authors wish to express their gratitude to Dr Roy B. Deal and Dr Donald E. Parker for their encouragement and invaluable suggestions. Appreciation is also expressed to Andy Dwyer and Andy Cucchiara who assisted in the computer aspects of this study. Appreciation is expressed to the staff of Presbyterian Hospital for their cooperation in this study and to the Department of Education for a Graduate and Professional Opportunities fellowship to Sidney J. Gravney.

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IV therapy
phlebitis

REFERENCES

1. Bentley, DW, Lepper MH: Septicemia related to indwelling venous catheters. *JAMA* **206**:1749-1752, 1968
2. Bolasny BL, Shepard GH, Scott HW: The hazards of intravenous polyethylene catheters in surgical patients. *Surg, Gyn & Ob* **130**:342-346, 1970
3. Brereton RB: Incidence of complications from indwelling venous catheters. *Del Med J* **41**:1-8, 1969
4. Cheney FW, Lincoln JR: Phlebitis from plastic catheters. *Anes* **25**:650-652, 1964
5. Collins RN, Braun PA, Zinner SH, et al: Risk of local and systemic infection with polyethelene intravenous catheters. *NEJM* **279**:340-343, 1968
6. Corso JA: Maintenance of venous polyethylene catheters to reduce risk of infection. *JAMA* **210**:2075-2077, 1969
7. Crossley K, Matsen JM: The scalp-vein needle: A prospective study of complications. *JAMA* **220**:985-987, 1972
8. Druskin MS, Siegel PD: Bacterial contamination of indwelling intravenous polyethylene catheters. *JAMA* **185**:966-968, 1963
9. Goldman DA, Maki DG, Rhame FS, et al: Guidelines for infection control in intravenous therapy. *Ann Int Med* **79**:848-850, 1973
10. Harbin RL, Schaffer W: Septicemia associated with scalp-vein needles. *South Med J* **66**:638-640, 1973
11. Keogh EJ, Hopkins BE: Risk of infection with scalp-vein needles — a prospective study. *Aust N Z J Med* **3**:389-392, 1973
12. Lowenbraun S, Young V, Kenton D, et al: Infection from intravenous "scalp-vein" needles in a susceptible population. *JAMA* **212**:451-453, 1970
13. Maki DG, Drinka PJ, Davis TE: Suppurative phlebitis of an arm vein from a "scalp-vein needle." *NEJM* **292**:1116-1117, 1973
14. Peter G, Loyd-Still JD, Lovejoy FH: Local infection and bacteremia from scalp-vein needles and polyethylene catheters in children. *J Ped* **80**:78-83, 1972
15. Reinarz JA: Septicemia related to intravascular devices. *Clinical Symposia* **30**:8-16, 1978
16. Wilson JA: Infection control in intravenous therapy. *Heart & Lung* **5**:430-436, 1976

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News From The Oklahoma State Department of Health

Rabies Vaccine

The Oklahoma State Department of Health has been advised by the Centers for Disease Control (CDC), Atlanta, that effective November 30, 1981, tests for rabies antibody in sera from persons administered human diploid vaccine was discontinued. This action was taken because of the consistently high antibody response to the vaccine.

Rabies antibody testing began at the CDC in the early 1960's when duck embryo vaccine was licensed. Although that vaccine was virtually free of serious side reactions, its potency was marginal and 20 percent or more of those vaccinated failed to develop antibodies after pre-exposure vaccination (with three doses of vaccine), or even after post-exposure treatment (with 23 doses of vaccine and human rabies globulin). Because of the high failure rate, it was necessary to examine antibody response in all those vaccinated. Rabies vaccination has been routinely practiced among many veterinarians, laboratory personnel, and others with an occupationally-related increased risk of exposure to the disease.

Human diploid cell rabies vaccine was licensed in June, 1980. The vaccine appears to be potent and is the safest vaccine to date. Three doses are recommended for pre-exposure vaccination (days 0, 7 and 28). Five doses are given for post-exposure vaccination (days 1, 3, 7, 14 and 28), along with human rabies globulin. The serologic responses to these regimens have been evaluated over the last year. Of those vaccinated, virtually all persons developed adequate levels of antibody after administration of the recommended regimens of human diploid vaccine.

The action to discontinue testing was based on the recommendation of the Public Health Service's Immunization Practices Advisory Committee, which includes non-governmental experts in infectious disease control. The center will continue to test sera from individuals who have received duck embryo vaccine and from persons who are immunosuppressed. Further information can be obtained from the Laboratory Service of the Oklahoma State Department of Health. □

COMMUNICABLE DISEASES IN OKLAHOMA FOR DECEMBER, 1981

DISEASE	December 1981	December 1980	November 1981	Total To Date	
				1981	1980
Amebiasis	1	—	—	25	39
Aseptic Meningitis	6	12	7	107	86
Brucellosis	—	—	—	7	10
Encephalitis, Infectious	1	1	3	26	18
Gonorrhea (Use Form ODH-228)	1255	1075	1341	15909	13844
Hepatitis A	12	49	29	293	395
Hepatitis B	31	30	17	242	226
Hepatitis Unspecified	9	16	19	156	237
Malaria	—	1	1	8	13
Measles (Rubeola)	—	—	—	6	775
Meningococcal Infections	3	7	6	49	30
Pertussis	—	2	—	2	30
Rabies (Animal)	11	12	8	218	246
Rocky Mountain Spotted Fever	—	4	—	99	77
Rubella	1	2	—	3	8
Salmonellosis	21	47	38	413	386
Shigellosis	31	35	47	455	255
Syphilis (Use Form ODH-228)	17	12	13	184	120
Tetanus	—	—	1	2	1
Tuberculosis	34	32	30	336	338
Tularemia	6	1	6	39	24
Typhoid Fever	—	—	—	5	7

Western Party, Sports Events Promise Fun at Annual Meeting

There will be ample opportunity to indulge in fun and enjoyment at the 1982 OSMA Annual Meeting. Members and spouses are encouraged to take advantage of the social and recreational activities planned for this year's get-together.

A rip-roaring Western Party will kick off the schedule of social events on Thursday evening, May 6. The party will take place at Henson's, one of Oklahoma City's newest and finest western clubs. The atmosphere is informal, so come prepared to don your cowboy boots for a night of western music and revelry.

Activities move outdoors on Friday afternoon as the OSMA golf and tennis tournaments get under way. The golf tournament will be held at picturesque Kicking Bird Golf Course, located just outside Oklahoma City in Edmond. The tennis tournament, which will continue on Saturday afternoon, is set for the Summerfield Racquet Club in Oklahoma City. Both tournaments are open to men and women, and both require a registration fee.

Social events conclude on Saturday, May 8, with a gala evening of dining, dancing, and entertainment at the OSMA Presidential Inaugural Banquet and Ball. The ball will be held in the plush and elegant Grand Ballroom of the Skirvin Plaza Hotel.

The official program being mailed to you contains complete information on registration fees and ticket prices for these and other annual meeting functions. To register for the golf and tennis tournaments and to order tickets for the social events, you should complete and mail the registration/ticket order form included in the program with payment, to OSMA. Pre-registration is essential to guarantee your participation. □

Annual Meeting Festivities Set For Auxiliary's Diamond Jubilee

The Oklahoma State Medical Association Auxiliary is celebrating its Diamond Jubilee with a special line-up of festivities at the 1982 OSMA Annual Meeting in Oklahoma City, May 5-8, 1982. The Oklahoma auxiliary is the oldest in the nation; it was founded in Shawnee in 1907 by Mrs W. C. Bradford.

To mark its seventy-fifth birthday, the auxiliary is holding a luncheon at the Skirvin Plaza Hotel on Friday, May 7, and a "Stroll Down Memory Lane Fashion Show," featuring clothes dating from 1907 to the present. Seating for the luncheon and fashion show is limited, so members are urged to register early.

Other auxiliary activities will be listed in the official program of the annual meeting. □

Dr McCall Appointed Dean of OU College of Medicine



Charles B. McCall, MD, former chief of staff of the Veterans Administration (VA) Medical Center in Oklahoma City, has been appointed dean of the College of Medicine at the University of Oklahoma Health Sciences Center. He assumed his new post on February 1.

Dr McCall had served as VA chief of staff since 1980, concurrent with positions as associate dean for clinical affairs at the OU College of Medicine and professor of medicine at the Health Sciences Center.

During 1978 he was associate dean at the University of Oklahoma Tulsa Medical College. Prior to that, he served a year as dean of the College of Medicine at Oral Roberts University and two years as dean of the College of Medicine at the University of Tennessee. He has held several high-level posts with the University of Texas system and was chief resident in medicine at the University of Alabama.

Dr McCall received both his BA and MD degrees from Vanderbilt University. He is a member of the American Medical Association, the American College of Physicians, the American Thoracic Society, the American Federation for Clinical Research, the American College of Chest Physicians, and the Oklahoma State Medical Association. □

MEDICAL-LEGAL SEMINARS

1982 SCHEDULE

April 13	Telephone Collecting	Tulsa
April 14	Medical Office Management	
April 15	Financial and Personnel Management	Tulsa
April 20	Telphone Collecting	Oklahoma City
April 21	Medical Office Management	Oklahoma City
April 22	Financial and Personnel Management	Oklahoma City
May 11	Telephone Collecting	Joplin, MO
May 12	Medical Office Management	Joplin, MO
June 22	Telephone Collecting	Wichita Falls, TX
June 23	Medical Office Management	Wichita Falls, TX
July 28	Medical Office Management	Enid
July 30	Medical Office Management	Woodward
Aug. 4	Medical Office Management	Oklahoma City
August 5	Medical Office Management	Ardmore
August 17	Medical Office Management	Bartlesville
August 19	Medical Office Management	Tulsa
August 26	Medical Office Management	Lawton
August 31	Medical Office Management	Muskogee

SUMMER TOUR

Aug. 17-24 (tentative) Ixtapah, Mexico 7 Day Tour
5 Day Seminar



For registration information write:
Ed Kelsay
% Medical-Legal Seminars
5131 Classen Blvd., Suite 212
Oklahoma City, OK 73118

Death

JOHN P. GRIMES, MD
1900-1981

A Wewoka physician for over 53 years, John P. Grimes, MD, died December 24, 1981. Doctor Grimes was a native of Dawson, Georgia and was graduated from Emory University School of Medicine in 1924. His practice was established in Wewoka in 1928. Doctor Grimes had been honored by Wewoka civic organizations and the Oklahoma State Medical Association which present him with a Life Membership in 1971. □

IN MEMORIAM

1981

David J. Tomko, MD	*March 4*
Eugene F. Lester, Jr., MD	*March 16*
J. Samuel Binkley, MD	*March 16*
Gilbert L. Hyroop, MD	*April 15*
Leo A. Myers, MD	*April 19*
J. Holland Howe, MD	*April 20*
Harold M. McClure, MD	*April 27*
Sam W. Hendrix, MD	*May 12*
Roger C. Good, MD	*June 16*
Frederick G. Dorwart, MD	*June 16*
Joseph W. Kelso, MD	*June 18*
Rufus K. Goodwin, MD	*June 25*
Orville C. Armstrong, MD	*July 9*
Charles F. Paramore, MD	*July 10*
James D. Reynard, MD	*July 21*
Mark R. Everett, PhD	*August 17*
Khalil Ahmad, MD	*August 22*
M. H. Haskell, MD	*August 30*
C. F. Foster, Jr., MD	*October 11*
E. E. Shircliff, MD	*October 23*
S. N. Stone, Jr., MD	*November 9*
James R. Barnes, MD	*December 13*
E. Rankin Denny, MD	*December 16*
John P. Grimes, MD	*December 24*

□

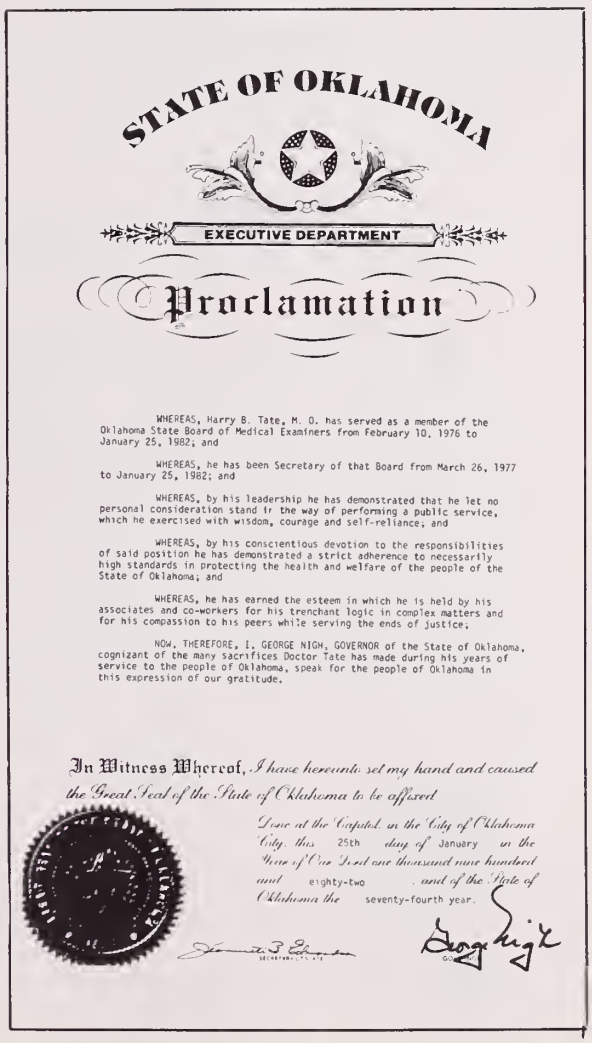
Governor's Proclamation Honors Dr Tate for His Service to State

Harry B. Tate, MD, of Oklahoma City, has been honored with an official state proclamation recognizing his leadership and devotion in serving the people of Oklahoma. The proclamation was presented to Dr Tate on January 25 by Governor George Nigh.

Dr Tate was cited for maintaining high standards in protecting the health and welfare of the people of Oklahoma, for his compassion and justice, and for his wisdom, courage, and self-reliance in executing his duties as a public servant.

Dr Tate served as a member of the Oklahoma State Board of Medical Examiners from February 1976 to January of this year and as secretary of the board for the past five years.

A copy of the official proclamation is shown below. □



STATE OF OKLAHOMA

EXECUTIVE DEPARTMENT

Proclamation

WHEREAS, Harry B. Tate, M. D. has served as a member of the Oklahoma State Board of Medical Examiners from February 10, 1976 to January 25, 1982; and

WHEREAS, he has been Secretary of that Board from March 26, 1977 to January 25, 1982; and

WHEREAS, by his leadership he has demonstrated that he let no personal consideration stand in the way of performing a public service, which he exercised with wisdom, courage and self-reliance; and

WHEREAS, by his conscientious devotion to the responsibilities of said position he has demonstrated a strict adherence to necessarily high standards in protecting the health and welfare of the people of the State of Oklahoma; and

WHEREAS, he has earned the esteem in which he is held by his associates and co-workers for his trenchant logic in complex matters and for his compassion to his peers while serving the ends of justice;

NOW, THEREFORE, I, GEORGE NIGH, GOVERNOR of the State of Oklahoma, cognizant of the many sacrifices Doctor Tate has made during his years of service to the people of Oklahoma, speak for the people of Oklahoma in this expression of our gratitude.

In Witness Whereof, I have hereunto set my hand and caused the Great Seal of the State of Oklahoma to be affixed

Done at the Capitol, in the City of Oklahoma City, this 25th day of January in the Year of Our Lord one thousand nine hundred and eighty-two and of the State of Oklahoma the seventy-fourth year.

AAD Installs Telephone System For Reporting Drug Reactions

The American Academy of Dermatology (AAD) has developed a telephone-based Adverse Drug Reaction Reporting System (ADRRS) to collect members' reports of new, unusual, and rare adverse drug reactions.

Funded by a grant from the Food and Drug Administration (FDA), the project is designed to test the hypothesis that the telephone-based system will be more effective than the current system of submitting written reports to the FDA.

The new system employs a toll-free telephone number (800-323-1473) for AAD members to use in reporting adverse drug reactions. During normal business hours, a project assistant will take information from reporting physicians. Outside these hours, the toll-free number will be equipped with an automatic answering and recording device using a structured format to collect required data.

Each reporting physician will receive a written copy of the information provided. Reports can be edited or corrected either by phone or by mail. ADRRS professional staff will review reports to estimate their clinical importance as indicators of unrecognized, new, unusual, or severe adverse drug reactions.

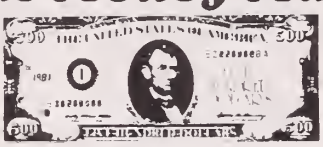
Once reports are confirmed and verified, they will be coded so that neither the reporting physician nor the patient can be identified through any material supplied to the FDA. □

Resolutions Due

All resolutions to be presented to the Oklahoma State Medical Association House of Delegates annual meeting must be received in the executive office no later than thirty (30) days prior to the meeting. This year's meeting is to be held May 6, 1982 at the Skirvin Plaza Hotel in Oklahoma City.

County medical societies or individuals wishing to submit resolutions should mail them to OSMA, 601 N.W. Expressway, Oklahoma City, OK 73118. Should you need assistance in drafting such resolutions, please contact the executive offices. □

Fabulous Money Machine?



If you owned a machine that printed a brand new $500 bill each week, you'd be most fortunate wouldn't you? But, what if this very special machine had parts that could not be replaced? As a prudent person in control of such a machine you would want some assurance that if the machine stopped producing $500 bills, you could still receive them, wouldn't you?

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Through the Oklahoma State Medical Association Group Disability Program, you have the opportunity to obtain assurance of uninterrupted income if your health should fail.

Three plans are available. Plan L-65 pays accident benefits for lifetime. Sickness benefits are payable to age 65, or for a 2-year maximum period if disability begins between ages 63 and 70. Benefits are payable for 10 years based on being unable to perform every duty of your occupation; thereafter, based on being unable to perform the duties of any gainful occupation for which you are reasonably fitted.

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Plan L-65



WEEKLY INDEMNITY	UNDER AGE 30	AGE 30-39	AGE 40-49	AGE 50-59	AGE 60-69
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400.00	241.50	277.50	381.50	513.50	418.50*
300.00	181.50	208.50	286.50	385.50	418.50
200.00	121.50	139.50	191.50	257.50	279.50
100.00	61.50	70.50	96.50	129.50	140.50

For full particulars, contact JANE GRIFFITH

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OSMA Offers Workshop Series For Medical Office Employees

Beginning this month, the Oklahoma State Medical Association will sponsor a series of one-day workshops for newly-hired medical office personnel. Five workshops are scheduled for 1982, three in Oklahoma City and two in Tulsa.

Developed by OSMA legal counsel Ed Kelsay, the "New Employee Workshops" include sessions on the role and function of physicians, medical ethics, sources of physician income, drugs and prescriptions, hospital privileges and relations, and effective communication. The workshops are taught by Kelsay and other OSMA professional staff.

The Oklahoma City workshops will be held at the Lincoln Plaza Hotel on March 27, June 26, and September 25. The Tulsa meetings will take place at the Excelsior Hotel on May 22 and September 11. Cost of the workshop is $25 per person, not including lunch.

To register for a workshop contact: Oklahoma State Medical Association, 601 NW Expressway, Oklahoma City, OK 73118, (405) 843-9571. □

Eckerd Drug Company Removes Methaqualone from Pharmacies

The growing problems of drug abuse and pharmacy thefts associated with the illegal use of methaqualone have prompted Eckerd Drug Company to remove the drug from its pharmacy shelves.

In a letter to OSMA, Burton C. Perfit, president of the company, expressed regret for any inconvenience to physicians and their patients caused by the company's decision. He stated that the decision to stop dispensing methaqualone was based on the belief that the abuse and potential harm of the drug outweigh its therapeutic benefits.

The drug company is calling for support of governmental action to reclassify the drug from a Schedule II Controlled Substance to a Schedule I, a move that would effectively eliminate the legal prescribing and dispensing of methaqualone. □

Calendar of Events

"Inflammatory Bowel Disease," "Chronic Abdominal Pain," and **"Intestinal Bleeding,"** April 2, 1982, Mercy Health Center, Contact Medical Staff Education Office, 755-1515, ext. 2603.

"Critical Care Medicine Course," March 7-12, 1982, University of Oklahoma Health Sciences Center (Co-sponsored by The American Lung Association of Oklahoma), Sheraton-Century Center Hotel, Oklahoma City, OK. For further information, contact Robert McCaffree, MD, (405) 271-6173.

*"**Oklahoma Physician's Spring Retreat,**" March 13-20, 1982, University of Oklahoma Health Sciences Center.

*"**Fourth Oklahoma Symposium on Drinking Behavior and Alcoholism,**" March 19-20, 1982, University of Oklahoma Health Sciences Center.

*"**Clinical Problems in Ophthalmology,**" April 3, 1982, University of Oklahoma Health Sciences Center.

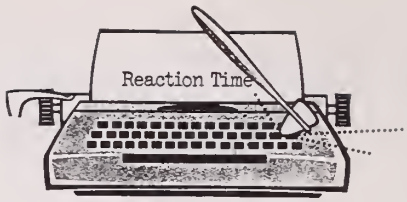
*For further information call: Office of Continuing Medical Education, (405) 271-2350. □

AMA Issues Statement Opposing All Anti-Abortion Amendments

The American Medical Association (AMA) has submitted a formal statement to the Senate Judiciary Committee opposing all proposals now before the committee to amend the Constitution of the United States to restrict or prohibit abortions.

The statement expresses the AMA's concern that proposed amendments to overturn the US Supreme Court's 1973 ruling on abortion could potentially deny women a necessary medical procedure. It also voices the AMA's objection to establishing the "precedent for and the possibility of improper interference into medical practice by singling out a medical procedure for prohibition or restriction in the form of a constitutional amendment."

The statement goes on to point out that a ban or restriction on abortions could adversely affect the health and lives of many women and would constitute such an invasion of privacy and limitation on good medical practice as to be unacceptable. □



November 20, 1981

Dr. Mark R. Johnson
Editor and Chief
Journal Oklahoma State
Medical Association
601 N.W. Expressway
Oklahoma City, OK 73118

Dear Dr Johnson:

Please find enclosed a letter in response to the editorial comment in the November issue of the Oklahoma State Medical Association Journal entitled, "Oklahoma Abortion Laws Revisited." If you don't feel free to publish this letter, I can provide you with copies of testimony before the United States Senate on Senate Bill 158 by nationally recognized physicians with positions other than Dr Boyle, who support the Human Life Amendment. In all fairness, I feel you should publish all views in the medical community on this very important issue rather than those few of Dr Boyle's.

Thank you for your kind consideration.

Sincerely,
Curtis E. Harris, MD
Internal Medicine & Endocrinology

CEH/jls
Enclosure

November 20, 1981

RE: Cover Letter

Dear Sirs:

The article in the November issue of the Journal entitled, "Oklahoma Abortions Laws Revisited" was well-written, and I appreciated the opportunity to read the comments of Dr Joseph F. Boyle. However, his opinions and conclusions do not represent the whole membership

in the AMA. His presentation is biased in several important ways.

Less than five percent of all pregnancies require termination to protect the life of the mother. The vast majority of the abortions performed today are for the convenience of the mother, and result in the death of the unborn fetus. The Human Life Amendment and the Human Life Act both recognize the right of the unborn child to be protected from the capricious will of the mother. Both acts do provide for the unusual circumstance of abortion to save the life of the mother. Both acts attempt to curb the concept "Abortion on Demand."

Recent advances in the intrauterine treatment of fetal defects and the increasingly sophisticated science of Neonatology further underscore the rights of the unborn to secure both good medical care, and the need for our compassionate concern for his or her well-being. If abortion is too easy an answer for social problems, life will be devalued.

The recent Oklahoma State Supreme Court decision to grant an abortion to a 12-year-old rape victim is a case-in-point. I talked to the young girl prior to her appearance in federal court in an action to vacate the lower court's ruling. It was her understanding that she would die if she didn't have an abortion. The girl did *not* want an abortion when given an accurate assessment of her health. However, the judge in the lower court, who originally granted the abortion, expressed dismay at her decision. He felt that she was too young to be a mother. Ironically, he felt that she was not too young to have an abortion. Neither the rights of the girl nor the unborn child weighed as heavily in his mind as did the "answer" abortion provided to the social problem of the pregnant teenager.

It is my sincere prayer that the worth of an individual will continue to be greater than that of a social need, even when that life has little apparent social value.

Sincerely,

Curtis E. Harris, MD
Internal Medicine & Endocrinology

CEH/jls

Mark R. Johnson, MD, Editor-in-Chief
The Journal of the
Oklahoma State Medical Association
601 N.W. Expressway
Oklahoma City, OK 73118

Dear Dr Johnson:

In the article "Oklahoma Abortion Laws Revisited," *The Journal* printed lengthy pro-abortion testimony from Joseph F. Boyle, MD, regarding the proposed Human Life Statute. To treat a sensitive issue like abortion without an attempt to balance it ignores the many doctors in the OSMA who are sincerely interested in offering legal protection for the unborn child without sacrificing compassionate care for the woman with an unwanted pregnancy.

It is important to note that although Dr Boyle offered his views before the Senate subcommittee as representative of the AMA, no vote had been taken of the membership, nor even of the House of Delegates of the AMA. At this year's meeting June 7-11 in Chicago, resolutions #49 and #85, dealing specifically with this abortion legislation, were withdrawn on June 7th before the House of Delegates could vote on the matter. The Board of Trustees then presumed to give pro-abortion testimony before the Senate subcommittee for the doctors of this country in this most weighty and controversial matter.

The Journal needs to clarify this for its readers and also print the testimony of physicians who favored legal protection from the moment of conception in their testimony before the Senate subcommittee. Enclosed is testimony from these same Senate hearings by physicians imminently well qualified to address this issue. I look forward to *The Journal's* publication of some of this testimony in an issue in the near future. Thank you very much.

Sincerely,

Phyllis Lauringer

cc: Harris D. Riley, Jr., MD
Robert G. Tompkins, MD
James B. Pitts, MD

When Life Begins: Testimony of Medical Experts before Senate Subcommittee on Separation of Powers, April 23-24, 1981.

I am Dr Alfred Bongiovanni from Philadelphia. I am currently Professor of Pediatrics and of Obstretics and Gynecology at the University of Pennsylvania. I have also been Professor of Pediatrics at the University of Ife in Nigeria, at the University of Puerto Rico and Dean of the Ponce School of Medicine in Puerto Rico.

I received my medical education at the University of Pennsylvania which is a nonsectarian private school. I have learned since my earliest medical education that human life begins at the time of conception. The standard textbooks which were used in the courses I took, many of them in continuous use until today, so state it. In "Human Embryology" by Bradley Patten there is contained a quotation from the famous American biologist F. R. Lillie. This pertains to the union of the sperm and the ovum. "The elements that unite are single cells, each on the point of death; but by their union a rejuvenated individual is formed, which constitutes a link in the early procession of life." And in the book *Developmental Anatomy* by L. B. Arey it is stated that the union of the male and female sex cell "definitely marks the beginning of a new individual." In the *Essentials of Human Embryology* by G. D. Dodds it is stated that "the fertilization of the egg marks the beginning of a new individual." There are many other authoritative texts which express the same opinion but I cite these because they are the ones which have been widely used throughout the United States in most of our schools of medicine.

And Shettles of Columbia University has stated that "a new composite individual is started at the moment of fertilization. However, to survive this individual needs a very special environment for nine months . . . there is under normal development a living, definite going concern. To interrupt a pregnancy at any stage is like cutting the link of a chain; the chain is broken no matter where the link is cut." Gordon of the Mayo Clinic has written that, "from the moment of fertilization when the deoxyribose nucleic acids from the spermatozoan and the ovum come together to form the zygote, the pattern of the individual's constitutional development is irrevocably determined; . . . True, environmental influences both during the intrauterine period and after birth modify the individual's constitution and continue to do so right up until his death, but it is at the moment of conception that the individual's capacity to respond to these exogenous influences is established. Even at that early stage the complexity of the living cell is so great that it is beyond our comprehension." And listen to Hamilton: "there are no essential differences between prenatal and postnatal development; the former is more rapid and results in more striking changes in shape and proportions but in both the basic mechanisms are very similar if not identical." So too Langman "the development of a human being begins with fertilization." I know of no new biologic evidence which would alter these realizations. It is true that in recent years we better understand the details of the genetic code but if in the minds of some this greater knowledge contradicts these biologists, then I can only conclude that familiarity breeds contempt and nothing more.

From the moment of the union of the sperm and egg in human species there is present in this single cell 46 chromosomes. These have the entire genetic code which if not interrupted will make a human being. This single cell begins to divide rapidly and within a few weeks assumes the recognizable features of man. The heart begins to beat between the 18-25th day and the electroencephalogram which records brain waves shows activity by 40 days. This activity is very much the same measure that we employ as a means of determining the end of human life in adults. The little human being is breathing within the uterus by 11-12 weeks. During these early weeks it is of course dependent upon special life support systems mainly through the umbilical cord, which is a part of the baby, but which is attached to the mother.

By the end of the third month all of the major organs are completely developed and during the latter two-thirds of its life within the womb there is mostly a process of further growth. It is really not capable of independent existence throughout these early months nor after birth at the usual time. Independent existence would be extremely difficult in any human subject before at least the age of school attendance. And the question of viability is an ever changing one. While in 1950 such a human being born before time rarely survived at an age younger than 30 weeks more recently this has gradually decreased through the introduction of

sophisticated technical external support systems widely employed in all major medical centers. But dependence continues well after birth and there has been much written in recent years about parental bonding in the early months after the birth of a baby and its importance on the future development. This too is an important support system.

I do not fully comprehend the current concept of personhood as used in some circles. In the notorious Dred Scott decision it was a matter of color. If the issue is primarily one of personhood then I submit that this is not fully achieved until late adolescence. The dramatic changes and the outpouring of "new" chemical signals at the time of puberty is just as amazing as the multiplication and differentiation of the cells from the single fertilized ovum. The complete man or complete woman from the physical as well as intellectual and emotional point of view is not achieved until the second decade of life. The public realization of this incompleteness prior to these events reflects itself in many ways in our society such as the legal age at which one may vote or engage in a certain number of other activities.

Within a couple of years after the termination of the first decade of life certain dramatic events occur by way of the sudden secretion of homones from the central nervous system, the pituitary gland and the sex glands that bring about the final and very rapid rate of growth of the body together with the secondary sexual characteristics which denote the complete formation of the man or woman. But these very events in fact have their inception within a few days after the egg is fertilized when it implants itself into the uterus of the mother. A few hundred cells at that point manufacture a number of hormones one of which is so high as to constitute a reliable test for pregnancy. The fertilized egg produces, even before implantation into the uterus, a large hormone called chorionic gonadotropin (F. Haour & B. B. Saxena, *Science:* 185: 444, 1974). This substance plays an important role in assuring continued survival of the conceptus within the uterus. This it does by maintaining the corpus luteum of the mother which secretes progesterone during the first few weeks of pregnancy. Progesterone in turn maintains the uterus in a receptive state so that the fertilized ovum is not rejected. In addition, this hormone seems to have immunosuppressive actions which prevents the maternal system from manufacturing antibodies which would destroy it. Furthermore, although this same hormone is made by the early fertilized ovum of other mammals, the human hormone is a special structure peculiar to our species and indicates that the very early human embryo is manufacturing a special chemical peculiar to mankind in order to protect itself. Indeed this hormone then finds its way from the embryo into the mother's bloodstream and can be detected there by the 9th or 10th day after ovulation — after 6-8 days after fertilization (Mishell, D. R. et al. *AM. J. Obstet. Gynecol.* **118:**990, 1974; Catt, K. J. et al. *J. Clin. Endocrinol. Metab.* **40:** 537, 1975). It heralds the presence of a new human being and its level in the mother is employed in the practice of medicine to make the diagnosis of pregnancy in instances where the mother with problems of fertility, has submitted to special procedures to bring about pregnancy. It is also used to make an early diagnosis of pregnancy by those desirous of terminating the new life at an early stage. But it remains an announcement of the new being expressing itself in specific biochemical terms. Admittedly, to the eye at this early stage the congregation of cells does not yet resemble a human being. But it is all there, the essence of human life. And the very genetic code which identifies this as a new human life is present from the moment of conception. I am no more prepared to say that these early stages represent an incomplete human being than I would be to say that the child prior to the dramatic events of puberty which I have outlined is not a human being. This is human life at every stage albeit incomplete until late adolescence.

Over the years my own special areas of interest in medical research have been concerned with diseases due to improper manufacture of certain of these hormones. Some of the diseases which I have studied begin during fetal life and some of them lead to minor malformations which today are readily and easily correctable. They are fully compatible with a normal life and less of a burden than diabetes, one of the most common diseases of mankind. And in certain other disorders of the hormones the problem arises later in life and may result in the failure of the final and rapid physical growth together with the failure of sexual development which does not begin until well after the tenth year of life. Individuals exhibiting this failure are often not given medical attention until fifteen or twenty years of life. In one

biologic sense they are not completely formed but they are unquestionably living human beings just as is the fertilized ovum which has before it a certain number of tasks to accomplish in order to assume the full physical form of human life as we recognize it within the restricted sense of grossly identifiable full developed body structure. But the human life is there at all times in its very essence, despite the enormity of the problems for the individual who at this late stage after birth is without the manifestations of complete manhood or womanhood. Each stage then from fertilization, through embryonic differentiation, infancy, childhood and on into adolescence is human life "on the march." Anything before this final stage might represent an incomplete human being. But I submit that human life is present throughout this entire sequence from conception to adulthood and that any interruption at any point throughout this time constitutes a termination of human life. I therefore subscribe to the conclusions of the First International Conference on Abortion held in Washington, DC in 1967 wherein it was stated "the majority of our group find no point in time between the union of sperm and egg, or at least the blastocyst stage and the birth of an infant at which point we could say that this is not human life . . . the changes occuring between implantation, a six weeks embryo, a six months fetus, a one week old child or a mature adult are merely stages of development and maturation". □

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CONTRAINDICATIONS: Not for use in the eyes or in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

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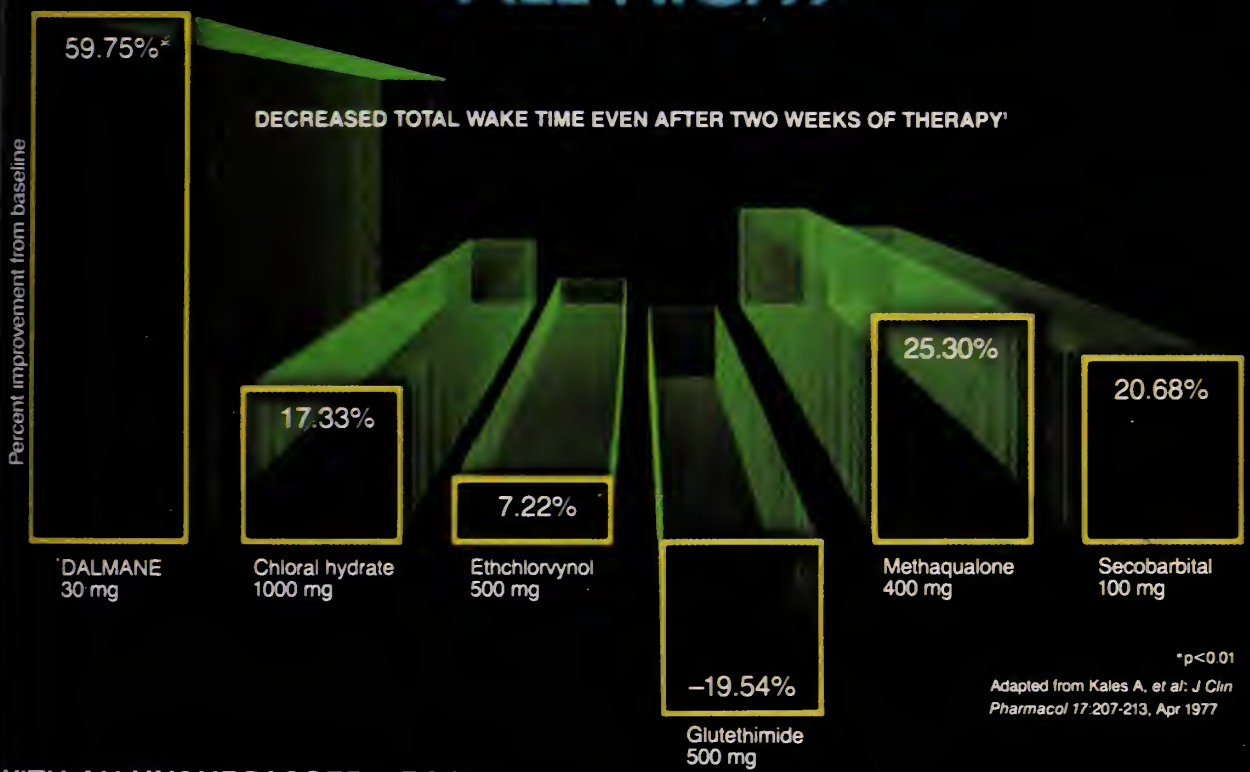
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J-9043-4 July 1981

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–which have strong anticholinergic effects[10]

Antihistamines

–which are *not* reliable sleep-inducing agents[11]

–which may produce stimulation instead[11]

–which have anticholinergic effects[11]

Major tranquilizers

–whose side effects may be troublesome for nonpsychotic patients[12]

–where tolerance for sedation appears rapidly[12]

Dalmane does not cause significant worsening of sleep beyond baseline levels upon discontinuation.[4]

References: 1. Kales A, *et al*: *J Clin Pharmacol 17*: 207-213, Apr 1977 **2.** Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ **3.** Greenblatt DJ, Allen MD, Shader RI: *Clin Pharmacol Ther 21*: 355-361, Mar 1977 **4.** Kales A, *et al*: *Clin Pharmacol Ther 18*: 356-363, Sep 1975 **5.** Moore JD, Weissman L: *J Clin Pharmacol 16*: 241-244, May-Jun 1976 **6.** Spiegel HE: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ **7.** Robinson DS, Amidon EL: Interaction of benzodiazepines with warfarin in man, in *The Benzodiazepines*, edited by Garattini S, Mussini E, Randall LO. New York, Raven Press, 1973, pp 641-646 **8.** Warfarin Study: Data on file, Medical Department, Hoffmann-La Roche Inc., Nutley NJ **9.** Baldessarini RJ: Drugs and the treatment of psychiatric disorders, chap 19, in Goodman and Gilman's *The Pharmacological Basis of Therapeutics*, ed 6, New York, Macmillan Publishing Co Inc, 1980, pp 391-447 **10.** Cole JO, Davis JM: Antidepressant drugs, chap 31.2, in *Comprehensive Textbook of Psychiatry II*, edited by Freedman AM, Kaplan HI, Sadock BJ, ed 2, Baltimore, The Williams & Wilkins Company, vol 2, 1976, pp 1941-1956 **11.** Douglas WW: Histamine and 5-hydroxytryptamine (serotonin) and their antagonists, chap 26, in Goodman and Gilman's *The Pharmacological Basis of Therapeutics*, ed 6, New York, Macmillan Publishing Co Inc, 1980, pp 609-646 **12.** Davis JM, Cole JO: Antipsychotic drugs, chap 31.1, in *Comprehensive Textbook of Psychiatry II*, edited by Freedman AM, Kaplan HI, Sadock BJ, ed 2, Baltimore, The Williams & Wilkins Company, vol 2, 1976, pp 1921-1940

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect.
Adults: 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients*: 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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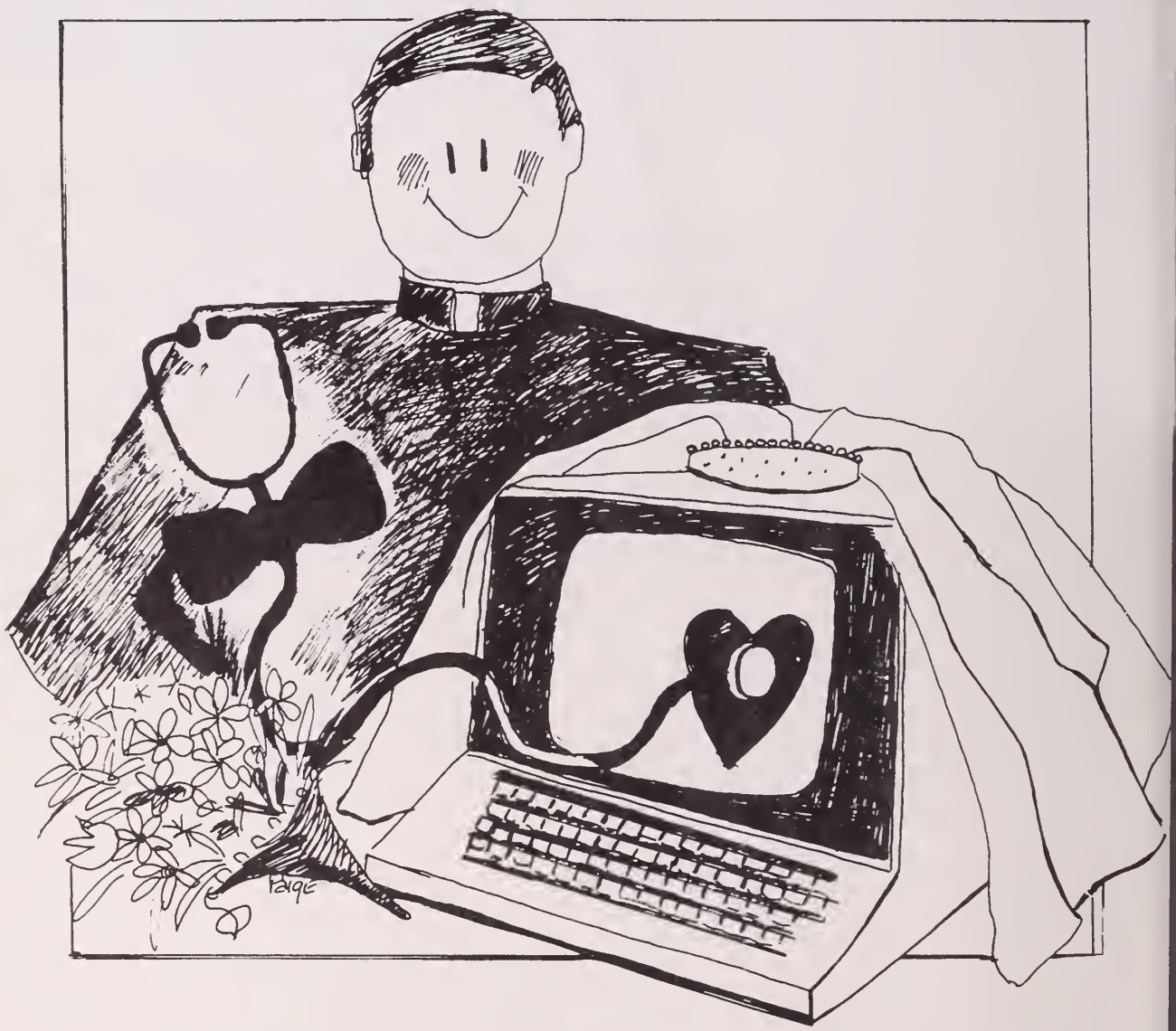
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*Reference: 1981/82 *American Druggist Blue Book*

SU-TON®

Liquid Tonic

A Tonic for Geriatric Patients

A pleasant tasting tonic containing iron, vitamins, minerals, and an analeptic. Ideal for those who may benefit from vitamin deficiency prevention. Just one tablespoon before each meal.

DESCRIPTION Forty-five milliliters of SU-TON contains the following ingredients. Pentylenetetrazol, 30 mg • Niacin 50 mg • Vitamin B-1 10 mg • Vitamin B-2, 5 mg • Vitamin B-6, 1 mg • Vitamin B-12, 3 mcg • Manganese (as Manganese Sulfate), 1 mg • Magnesium (as Magnesium Sulfate), 2 mg • Zinc (as Zinc Sulfate), 1 mg • Iron (as Ferric Pyrophosphate Soluble), 22 mg • Alcohol, 18%

INDICATIONS AND USAGE SU-TON contains pentylenetetrazol which may be helpful in the older patient as an analeptic agent when mental confusion and memory defects are present. SU-TON also contains vitamins, trace minerals, and iron for those patients who may benefit by preventing the development of a deficiency.

CONTRAINDICATIONS Epilepsy, convulsive disorders or known history of sensitivity to any of the listed active ingredients.

WARNINGS The safety of this preparation during pregnancy and lactation has not been established. Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child.

PRECAUTIONS Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of SU-TON who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

ADVERSE REACTIONS Pentylenetetrazol in high doses may produce toxic symptoms typical o central nervous system stimulants, which act on the higher motor centers and the spinal cord. Convulsions resulting from this drug are spontaneous and are not induced by external stimuli. They usually last for several minutes and are followed by profound depression and respiratory paralysis. Death has been reported from the ingestion of 10 grams of pentylenetetrazol.

DRUG ABUSE Drug dependence has not been reported with SU-TON.

OVERDOSAGE Signs and symptoms of acute overdose may be due principally from overstimulation o the central nervous system and from excessive vasodilatation with resulting autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyper reflexia, sweating, confusion, hallucinations, headache, hyperpyrexia, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage. Intensive care must be provided to maintain adequate circulation and respiratory exchange.

DOSAGE AND ADMINISTRATION One tablespoonful (15 ml) 3 times a day 20–30 minutes before meals. This drug is not for use in children under 12 years of age.

HOW SUPPLIED Bottles of 473 ml (16 fl. oz.) NDC 0524-1015-1

Federal law prohibits dispensing without prescription. February 1982

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10,000,000 alcoholics. Ethanol may produce many effects that together bring about nutritional deficiencies, so that alcoholism affects nutrition at many levels.[1]

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23,500,000 surgical patients. Nutritional status can be compromised by the trauma of surgery; and some operations interfere with the ingestion, digestion and absorption of food.[3]



Before prescribing, please consult complete product information, a summary of which follows:
Each Berocca® Plus tablet contains 5000 IU vitamin A (as vitamin A acetate), 30 IU vitamin E (as *dl*-alpha tocopheryl acetate), 500 mg vitamin C (ascorbic acid), 20 mg vitamin B_1 (as thiamine mononitrate), 20 mg vitamin B_2 (riboflavin), 100 mg niacin (as niacinamide), 25 mg vitamin B_6 (as pyridoxine HCl), 0.15 mg biotin, 25 mg pantothenic acid (as calcium pantothenate), 0.8 mg folic acid, 50 mcg vitamin B_{12} (cyanocobalamin), 27 mg iron (as ferrous fumarate), 0.1 mg chromium (as chromium nitrate), 50 mg magnesium (as magnesium oxide), 5 mg manganese (as manganese dioxide), 3 mg copper (as cupric oxide), 22.5 mg zinc (as zinc oxide).

Indications: Prophylactic or therapeutic nutritional supplementation in physiologically stressful conditions, including conditions causing depletion, or reduced absorption or bioavailability of essential vitamins and minerals; certain conditions resulting from severe B-vitamin or ascorbic acid deficiency; or conditions resulting in increased needs for essential vitamins and minerals.
Contraindications: Hypersensitivity to any component.
Warnings: Not for pernicious anemia or other megaloblastic anemias where vitamin B_{12} is deficient. Neurologic involvement may develop or progress, despite temporary remission of anemia, in patients with vitamin B_{12} deficiency who receive supplemental folic acid and who are inadequately treated with B_{12}.
Precautions: *General:* Certain conditions may require additional nutritional supplementation. During pregnancy, supplementation with vitamin D and calcium may be required. Not intended for treatment of severe specific deficiencies. *Information for the Patient:* Toxic reactions have been reported with injudicious use of certain vitamins and minerals. Urge patients to follow specific dosage instructions. Keep out of reach of children. *Drug and Treatment Interactions:* As little as 5 mg pyridoxine daily can decrease the efficacy of levodopa in the treatment of parkinsonism. Not recommended for patients undergoing such therapy.
Adverse Reactions: Adverse reactions have been reported with specific vitamins and

ROCHE

5000,000 hospital patients with infections.[4] Many are anorexic and may have a markedly reduced food intake. Supplements are often provided as a prudent measure because the vitamin status of critically ill patients cannot be readily determined.[3]

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Berocca Plus Tablets provide: therapeutic levels of ascorbic acid and B-complex vitamins; supplemental levels of biotin, vitamins A and E, and five important minerals (iron, chromium, manganese, copper and zinc); plus magnesium. Berocca Plus is not intended for the treatment of specific vitamin and/or mineral deficiencies.

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highly acceptable to patients, has virtually no odor or aftertaste and is economical. And its "Rx only" status means more physician involvement, better patient compliance.

References: 1. Shaw S, Lieber CS: Nutrition and alcoholism, chap. 40, in *Modern Nutrition in Health and Disease*, edited by Goodhart RS, Shils ME. Philadelphia, Lea & Febiger, 1980, pp. 1220, 1237. 2. Watkin DM: Nutrition for the aging and the aged, chap. 28, in *Modern Nutrition in Health and Disease, op. cit.*, p. 781. 3. Shils ME, Randall HT: Diet and nutrition in the care of the surgical patient, chap. 36, in *Modern Nutrition in Health and Disease, op. cit.*, pp. 1084, 1089, 1114. 4. Dixon RE: *Ann Intern Med 89* (Part 2): 749-753, Nov 1978. 5. Committee on Dietary Allowances, National Research Council: Recommended Dietary Allowances, ed 9. Washington, National Academy of Sciences, 1980, p. 13.

erals, but generally at levels substantly higher than those in Berocca Plus. wever, allergic and idiosyncratic reacns are possible at lower levels. Iron, n at the usual recommended levels, been associated with gastrointestinal lerance in some patients.

sage and Administration: Usual adult age: one tablet daily. Not recommended for children. Available on prescription only.

w Supplied: Golden yellow, capsule-ped tablets—bottles of 100.

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Faster peak. Fewer problems.

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Cyclapen®-W (cyclacillin) produces twice the peak serum concentration* (15.6 mcg/ml versus 7.3 mcg/ml) in half the time (30 minutes versus 60 minutes).[1]

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†Due to susceptible organisms.

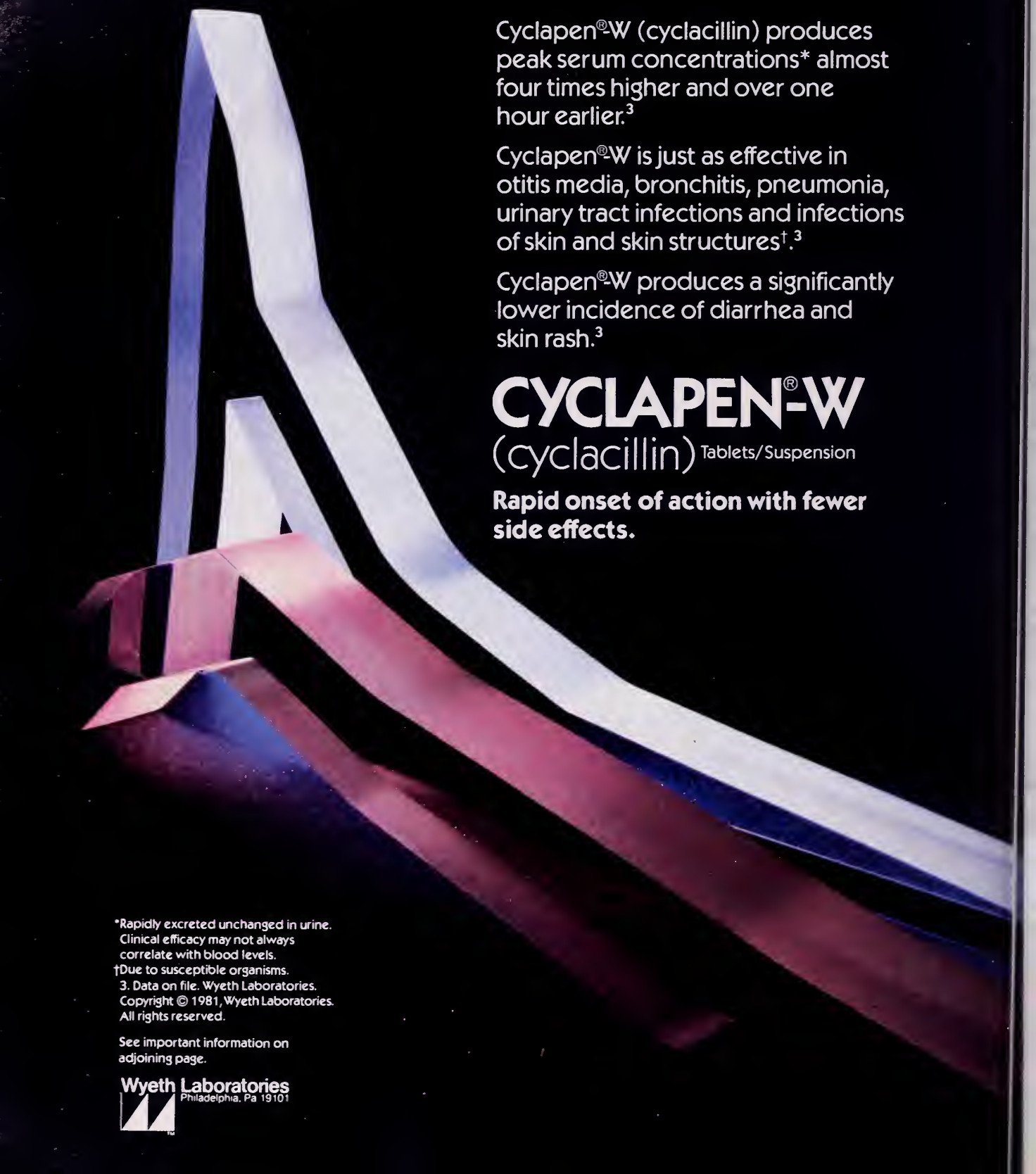
1. Ginsburg CM, McCracken GH Jr, Zweighaft TC, Clahsen JC: Comparative pharmacokinetics of cyclacillin and amoxicillin in infants and children. *Antimicrob Ag Chemother* 19:1086-1088 (June) 1981.
2. Multicenter trials. Data to be published.

See important information on page after next.

Compared to ampicillin

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Cyclapen®-W (cyclacillin) produces peak serum concentrations* almost four times higher and over one hour earlier.[3]

Cyclapen®-W is just as effective in otitis media, bronchitis, pneumonia, urinary tract infections and infections of skin and skin structures†.[3]

Cyclapen®-W produces a significantly lower incidence of diarrhea and skin rash.[3]

CYCLAPEN®-W
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Rapid onset of action with fewer side effects.

*Rapidly excreted unchanged in urine. Clinical efficacy may not always correlate with blood levels.
†Due to susceptible organisms.
3. Data on file. Wyeth Laboratories.
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See important information on adjoining page.

Wyeth Laboratories
Philadelphia, Pa 19101

Cyclapen®-W (cyclacillin)

Indications
Cyclacillin has less in vitro activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

RESPIRATORY TRACT
Tonsillitis and phoryngitis caused by Group A beta-hemolytic streptococci
Bronchitis and pneumania caused by S. pneumaniae (formerly D. pneumoniae)
Otitis media caused by S. pneumaniae (formerly D. pneumoniae) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae**
*Thaugh clinical improvement has been shown, bacterialagic cures connat be expected in all patients with chranic respiratary disease due ta *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and stophylacacci, non-penicillinose producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in ony *E. coli* and *P. mirabilis* infectians other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment ta monitor effectiveness of therapy and susceptibility af bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindicatians Controindicoted in individuols with history of on allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less in vitro activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactians when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Pralonged use of antibiotics moy promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up ta 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive af human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise coution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactians are likely, particularly in those who previously demonstroted penicillin hypersensitivity or with history af allergy, asthma, hay fever, or urticoria. Adverse reactions reparted with cyclacillin: diorrheo (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdaminal pain, voginitis, and urticaria have been reparted. (See WARNINGS) Other less frequent adverse reactians which may occur and are reparted with ather penicillins are anemia, thrombocytapenia, thrambocytapenic purpura, leukopenia, neutropenia and easinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reparted.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becames asymptomatic or until bacterial eradication is evidenced. In Graup A beta-hemolytic streptococcal infections, at least 10 days' treatment is recammended to guard agoinst risk af rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinicol opproisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is nat indicoted in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees af renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Phoryngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Bronchitis and Pneumania		
Mild ar Maderate Infectians	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

*Dasage should not result in a dase higher than that far adults.
†depending on severity

How Supplied Tablets 250 mg and 500 mg in bottles of 100. Oral Suspension 125 mg and 250 mg per 5 ml in bottles to make 100 ml and 200 ml af Suspension.

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- **only a 60% cure rate with penicillin V-K**



As seen on admission



After one week of penicillin V-K therapy



Two weeks after initiation of TEGOPEN therapy

Treatment failure was judged to have occurred when lesions increased in size and/or number during the initial week of treatment with penicillin V-K. *No* treatment failures occurred with Tegopen.

*Data on file, Bristol Laboratories.

Brief Summary of Prescribing Information

TEGOPEN®
(cloxacillin sodium)
Capsules and Oral Solution

For complete information, consult Official Package Circular. (12) 9/11/75

INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates resistant to penicillin G outside the hospital is increasing, approximating the high percentage of resistant staphylococcal isolates found in the hospital. For this reason, it is recommended that a penicillinase-resistant penicillin be used as initial therapy for any suspected staphylococcal infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of methicillin against penicillin G-resistant staphylococci. Strains of staphylococci resistant to methicillin have existed in nature and it is known that the number of these strains reported has been increasing. Such strains of staphylococci have been capable of producing serious disease, in some instances resulting in fatality. Because of this, there is concern that widespread use of the penicillinase-resistant penicillins may result in the appearance of an increasing number of staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase-resistant penicillins (cross-resistance with cephalosporin derivatives also occurs frequently). Resistance to any penicillinase-resistant penicillin should be interpreted as evidence of clinical resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity may be encountered when more than one penicillinase-resistant penicillin is tested against the same strain of staphylococcus.

CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contraindication.

RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

		Given Tegopen® *(cloxacillin sodium)*	Given *penicillin V-K*
Staphylococcus aureus	(78 patients)	39	39
Returned to clinic at one week		29†	38†
Treatment failure at one week		0	18 (47.4%)
Staphylococcus aureus and *Streptococcus pyogenes*	(9 patients)	4	5
Returned to clinic at one week		4	5
Treatment failure at one week		0	2 (40%)
No initial bacterial growth	(14 patients)	9	5
All 14 healed, regardless of which antibiotic was administered.			
Beta-hemolytic *Streptococcus*	(1 patient)	0	1
TOTALS:	**102 patients**	**52 patients**	**50 patients**

†Eleven patients did not return for their one-week checkup. These were all called by telephone, and their families reported the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

STUDY: DESCRIPTION/PROTOCOL

- 102 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus*, 9% mixed *Staphylococcus aureus* and *Streptococcus pyogenes*, and 1% beta-hemolytic *Streptococcus*.†
- All patients were given randomized therapy—Tegopen capsules or oral solution, or penicillin V-K tablets or oral solution, in recommended dosages according to body weight.
- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

†The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

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WARNING:
Serious and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin therapy. Although anaphylaxis is more frequent following parenteral therapy it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with a history of sensitivity to multiple allergens.

There have been well documented reports of individuals with a history of penicillin hypersensitivity reactions who have experienced severe hypersensitivity reactions when treated with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made concerning previous hypersensitivity reactions to penicillins, cephalosporins, and other allergens. If an allergic reaction occurs, the drug should be discontinued and the patient treated with the usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

Safety for use in pregnancy has not been established.

PRECAUTIONS:
The possibility of the occurrence of superinfections with mycotic organisms or other pathogens should be kept in mind when using this compound, as with other antibiotics. If superinfection occurs during therapy, appropriate measures should be taken.

As with any potent drug, periodic assessment of organ system function, including renal, hepatic, and hematopoietic, should be made during long-term therapy.

ADVERSE REACTIONS:
Gastrointestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE:
Adults: 250 mg. q 6h.

Children: 50 mg./Kg./day in equally divided doses q 6h. Children weighing more than 20 Kg. should be given the adult dose. Administer on empty stomach for maximum absorption.

N B INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

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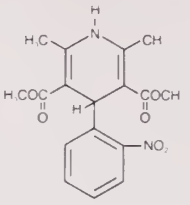
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PROCARDIA® CAPSULES
nifedipine

For Oral Use

DESCRIPTION: PROCARDIA (nifedipine) is an antianginal drug belonging to a new class of pharmacological agents, the calcium channel blockers. Nifedipine is 3,5-pyridinedicarboxylic acid, 1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-, dimethyl ester, $C_{17}H_{18}N_2O_6$, and has the structural formula:



Nifedipine is a yellow crystalline substance, practically insoluble in water but soluble in ethanol. It has a molecular weight of 346.3. PROCARDIA CAPSULES are formulated as soft gelatin capsules for oral administration each containing 10 mg nifedipine.

CLINICAL PHARMACOLOGY: PROCARDIA (nifedipine) is a calcium ion influx inhibitor (slow channel blocker or calcium ion antagonist) and inhibits the transmembrane influx of calcium ions into cardiac muscle and smooth muscle. The contractile processes of cardiac muscle and vascular smooth muscle are dependent upon the movement of extracellular calcium ions into these cells through specific ion channels. PROCARDIA selectively inhibits calcium ion influx across the cell membrane of cardiac muscle and vascular smooth muscle without changing serum calcium concentrations.

Mechanism of Action: The precise means by which this inhibition relieves angina has not been fully determined, but includes at least the following two mechanisms:

1) Relaxation and prevention of coronary artery spasm: PROCARDIA dilates the main coronary arteries and coronary arterioles, both in normal and ischemic regions, and is a potent inhibitor of coronary artery spasm, whether spontaneous or ergonovine-induced. This property increases myocardial oxygen delivery in patients with coronary artery spasm, and is responsible for the effectiveness of PROCARDIA in vasospastic (Prinzmetal's or variant) angina. Whether this effect plays any role in classical angina is not clear, but studies of exercise tolerance have not shown an increase in the maximum exercise rate-pressure product, a widely accepted measure of oxygen utilization. This suggests that, in general, relief of spasm or dilation of coronary artenes is not an important factor in classical angina.

2) Reduction of oxygen utilization: PROCARDIA regularly reduces arterial pressure at rest and at a given level of exercise by dilating peripheral arterioles and reducing the total peripheral resistance (afterload) against which the heart works. This unloading of the heart reduces myocardial energy consumption and oxygen requirements and probably accounts for the effectiveness of PROCARDIA in chronic stable angina.

Pharmacokinetics and Metabolism: PROCARDIA is rapidly and fully absorbed after oral administration. The drug is detectable in serum 10 minutes after oral administration, and peak blood levels occur in approximately 30 minutes. It is highly bound by serum proteins. PROCARDIA is extensively converted to inactive metabolites and approximately 80% of PROCARDIA and metabolites are eliminated via the kidneys. The half-life of nifedipine in plasma is approximately two hours. There is no information on the effects of renal or hepatic impairment on excretion or metabolism of PROCARDIA.

Hemodynamics: Like other slow channel blockers, PROCARDIA exerts a negative inotropic effect on isolated myocardial tissue. This is rarely, if ever, seen in intact animals or man, probably because of reflex responses to its vasodilating effects. In man, PROCARDIA causes decreased peripheral vascular resistance and a fall in systolic and diastolic pressure, usually modest (5–10 mm Hg systolic), but sometimes larger. There is usually a small increase in heart rate, a reflex response to vasodilation. Measurements of cardiac function in patients with normal ventricular function have generally found a small increase in cardiac index without major effects on ejection fraction, left ventricular end diastolic pressure (LVEDP) or volume (LVEDV). In patients with impaired ventricular function, most acute studies have shown some increase in ejection fraction and reduction in left ventricular filling pressure.

Electrophysiologic Effects: Although, like other members of its class, PROCARDIA decreases sinoatrial node function and atrioventricular conduction in isolated myocardial preparations, such effects have not been seen in studies in intact animals or in man. In formal electrophysiologic studies, predominantly in patients with normal conduction systems, PROCARDIA has had no tendency to prolong atrioventricular conduction, prolong sinus node recovery time, or slow sinus rate.

INDICATIONS AND USAGE: I. Vasospastic Angina: PROCARDIA (nifedipine) is indicated for the management of vasospastic angina confirmed by any of the following criteria: 1) classical pattern of angina at rest accompanied by ST segment elevation, 2) angina or coronary artery spasm provoked by ergonovine, or 3) angiographically demonstrated coronary artery spasm. In those patients who have had angiography, the presence of significant fixed obstructive disease is not incompatible with the diagnosis of vasospastic angina, provided that the above criteria are satisfied. PROCARDIA may also be used where the clinical presentation suggests a possible vasospastic component but where vasospasm has not been confirmed, e.g., where pain has a variable threshold on exertion or in unstable angina where electrocardiographic findings are compatible with intermittent vasospasm, or when angina is refractory to nitrates and or adequate doses of beta blockers.

II. Chronic Stable Angina (Classical Effort-Associated Angina): PROCARDIA is indicated for the management of chronic stable angina (effort-associated angina) without evidence of vasospasm in patients who remain symptomatic despite adequate doses of beta blockers and or organic nitrates or who cannot tolerate those agents.

In chronic stable angina (effort-associated angina) PROCARDIA has been effective in controlled trials of up to eight weeks duration in reducing angina frequency and increasing exercise tolerance, but confirmation of sustained effectiveness and evaluation of long-term safety in these patients are incomplete.

Controlled studies in small numbers of patients suggest concomitant use of PROCARDIA and beta-blocking agents may be beneficial in patients with chronic stable angina, but available information is not sufficient to predict with confidence the effects of concurrent treatment, especially in patients with compromised left ventricular function or cardiac conduction abnormalities. When introducing such concomitant therapy, care must be taken to monitor blood pressure closely since severe hypotension can occur from the combined effects of the drugs. (See Warnings.)

CONTRAINDICATIONS: Known hypersensitivity reaction to PROCARDIA.

WARNINGS: Excessive Hypotension: Although in most patients, the hypotensive effect of PROCARDIA is modest and well tolerated, occasional patients have had excessive and poorly tolerated hypotension. These responses have usually occurred during initial titration or at the time of subsequent upward dosage adjustment, and may be more likely in patients on concomitant beta blockers.

Increased Angina Beta Blocker Withdrawal: Occasional patients have developed well documented increased frequency, duration or severity of angina on starting PROCARDIA or at the time of dosage increases. The mechanism of this response is not established but could result from decreased coronary perfusion associated with decreased diastolic pressure with increased heart rate, or from increased demand resulting from increased heart rate alone.

Patients recently withdrawn from beta blockers may develop a withdrawal syndrome with increased angina, probably related to increased sensitivity to catecholamines. Initiation of PROCARDIA treatment will not prevent this occurrence and might be expected to exacerbate it by provoking reflex catecholamine release. There have been occasional reports of increased angina in a setting of beta blocker withdrawal and PROCARDIA initiation. It is important to taper beta blockers if possible, rather than stopping them abruptly before beginning PROCARDIA.

Congestive Heart Failure: Rarely, patients usually receiving a beta blocker have developed heart failure after beginning PROCARDIA. Patients with tight aortic stenosis may be at greater risk for such an event, as the unloading effect of PROCARDIA would be expected to be of less benefit to these patients, owing to their fixed impedance to flow across the aortic valve.

PRECAUTIONS: General: Hypotension: Because PROCARDIA decreases peripheral vascular resistance, careful monitoring of blood pressure during the initial administration and titration of PROCARDIA is suggested. Close observation is especially recommended for patients already taking medications that are known to lower blood pressure. See Warnings.

Peripheral edema: Mild to moderate peripheral edema, typically associated with arterial vasodilation and not due to left ventricular dysfunction, occurs in about one in ten patients treated with PROCARDIA. This edema occurs primarily in the lower extremities and usually responds to diuretic therapy. With patients whose angina is complicated by congestive heart failure, care should be taken to differentiate this peripheral edema from the effects of increasing left ventricular dysfunction.

Drug interactions: Beta-adrenergic blocking agents: See Indications and Warnings. Experience in over 1400 patients in a non-comparative clinical trial has shown that concomitant administration of PROCARDIA and beta-blocking agents is usually well tolerated, but there have been occasional literature reports suggesting that the combination may increase the likelihood of congestive heart failure, severe hypotension or exacerbation of angina.

Long-acting nitrates: PROCARDIA may be safely co-administered with nitrates, but there have been no controlled studies to evaluate the antianginal effectiveness of this combination.

Carcinogenesis, mutagenesis, impairment of fertility: Nifedipine was administered orally to rats for two years and was not shown to be carcinogenic. When given to rats prior to mating, nifedipine caused reduced fertility at a dose approximately 30 times the maximum recommended human dose. *In vivo* mutagenicity studies were negative.

Pregnancy: Pregnancy category C. Nifedipine has been shown to be teratogenic in rats when given in doses 30 times the maximum recommended human dose. Nifedipine was embryotoxic (increased fetal resorptions, decreased fetal weight, increased stunted forms, increased fetal deaths, decreased neonatal survival) in rats, mice and rabbits at doses of from 3 to 10 times the maximum recommended human dose. In pregnant monkeys, doses 2-3 and twice the maximum recommended human dose resulted in small placentas and underdeveloped chorionic villi. In rats, doses three times the maximum human dose and higher caused prolongation of pregnancy. There are no adequate and well-controlled studies in pregnant women. PROCARDIA should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

ADVERSE REACTIONS: In multiple-dose U.S. and foreign-controlled studies in which adverse reactions were reported spontaneously, adverse effects were frequent but generally not serious and rarely required discontinuation of therapy or dosage adjustment. Most were expected consequences of the vasodilator effects of PROCARDIA.

Adverse Effect	PROCARDIA (%) (N = 226)	Placebo (%) (N = 235)
Dizziness, light-headedness, giddiness	27	15
Flushing, heat sensation	25	8
Headache	23	20
Weakness	12	10
Nausea, heartburn	11	8
Muscle cramps, tremor	8	3
Peripheral edema	7	1
Nervousness, mood changes	7	4
Palpitation	7	5
Dyspnea, cough, wheezing	6	3
Nasal congestion, sore throat	6	8

There is also a large uncontrolled experience in over 2100 patients in the United States. Most of the patients had vasospastic or resistant angina pectoris, and about half had concomitant treatment with beta-adrenergic blocking agents. The most common adverse events were the same ones seen in the controlled trials, with dizziness or light-headedness, peripheral edema, nausea, weakness, headache and flushing each occurring in about 10% of patients, transient hypotension in about 5%, palpitation in about 2% and syncope in about 0.5%. Syncopal episodes did not recur with reduction in the dose of PROCARDIA or concomitant antianginal medication. Very rarely, introduction of PROCARDIA therapy was associated with an increase in anginal pain, possibly due to associated hypotension.

Several of these side effects appear to be dose related. Peripheral edema occurred in about one in 25 patients at doses less than 60 mg per day and in about one patient in eight at 120 mg per day or more. Transient hypotension, generally of mild to moderate severity and seldom requiring discontinuation of therapy, occurred in one of 50 patients at less than 60 mg per day and in one of 20 patients at 120 mg per day or more.

In addition, 2% or fewer of patients reported the following: **Respiratory:** Nasal and chest congestion, shortness of breath. **Gastrointestinal:** Diarrhea, constipation, cramps, flatulence **Musculoskeletal:** Inflammation, joint stiffness, muscle cramps. **CNS:** Shakiness, nervousness, jitteriness, sleep disturbances, blurred vision, difficulties in balance. **Other:** Dermatitis, pruritus, urticaria, fever, sweating, chills, sexual difficulties.

In addition, more serious adverse events were observed, not readily distinguishable from the natural history of the disease in these patients. It remains possible, however, that some or many of these events were drug related. Myocardial infarction occurred in about 4% of patients and congestive heart failure or pulmonary edema in about 2%. Ventricular arrhythmias or conduction disturbances each occurred in fewer than 0.5% of patients.

In a subgroup of over 1000 patients receiving PROCARDIA with concomitant beta blocker therapy, the pattern and incidence of adverse experiences was not different from that of the entire group of PROCARDIA treated patients (see **Precautions**).

In a subgroup of patients with a diagnosis of congestive heart failure as well as angina, dizziness or light-headedness, peripheral edema, headache or flushing each occurred in one in eight patients. Hypotension occurred in about one in 20 patients. Syncope occurred in approximately one patient in 250. Myocardial infarction or symptoms of congestive heart failure each occurred in about one patient in 15. Atrial or ventricular dysrhythmias each occurred in about one patient in 150.

Laboratory tests: Rare, mild to moderate, transient elevations of enzymes such as alkaline phosphatase, CK, LDH, SGOT, and SGPT have been noted, and a single incident of significantly elevated transaminases and alkaline phosphatase was seen in a patient with a history of gall bladder disease after about eleven months of nifedipine therapy. The relationship to PROCARDIA therapy is uncertain. These laboratory abnormalities have already been associated with clinical symptoms. Cholestasis, possibly due to PROCARDIA therapy, has been reported twice in the extensive world literature.

OVERDOSAGE: Although there is no well documented experience with PROCARDIA overdosage, available data suggest that gross overdosage could result in excessive peripheral vasodilation with subsequent marked and probably prolonged systemic hypotension. Clinically significant hypotension due to PROCARDIA overdosage calls for active cardiovascular support including monitoring of cardiac and respiratory function, elevation of extremities, and attention to circulating fluid volume and urine output. A vasoconstrictor (such as norepinephrine) may be helpful in restoring vascular tone and blood pressure, provided that there is no contraindication to its use. Clearance of PROCARDIA would be expected to be prolonged in patients with impaired liver function. Since PROCARDIA is highly protein-bound, dialysis is not likely to be of benefit.

DOSAGE AND ADMINISTRATION: The dosage of PROCARDIA needed to suppress angina and that can be tolerated by the patient must be established by titration. Excessive doses can result in hypotension.

The starting dose is one 10 mg capsule, swallowed whole, 3 times day. The usual effective dose range is 10–20 mg three times daily. Some patients, especially those with evidence of coronary artery spasm, respond only to higher doses, more frequent administration, or both. In such patients, doses of 20–30 mg three or four times daily may be effective. Doses above 120 mg daily are rarely necessary. More than 180 mg per day is not recommended.

In most cases, PROCARDIA titration should proceed over a 7–14 day period so that the physician can assess the response to each dose level and monitor the blood pressure before proceeding to higher doses.

If symptoms so warrant, titration may proceed more rapidly provided that the patient is assessed frequently. Based on the patient's physical activity level, attack frequency, and sublingual nitroglycerin consumption, the dose of PROCARDIA may be increased from 10 mg t.i.d. to 20 mg t.i.d. and then to 30 mg t.i.d. over a three-day period.

In hospitalized patients under close observation, the dose may be increased in 10 mg increments over four to six-hour periods as required to control pain and arrhythmias due to ischemia. A single dose should rarely exceed 30 mg.

No "rebound effect" has been observed upon discontinuation of PROCARDIA. However, if discontinuation of PROCARDIA is necessary, sound clinical practice suggests that the dosage should be decreased gradually with close physician supervision.

Co-Administration with Other Antianginal Drugs: Sublingual nitroglycerin may be taken as required for the control of acute manifestations of angina, particularly during PROCARDIA titration. See **Precautions, Drug Interactions** for information on co-administration of PROCARDIA with beta blockers or long-acting nitrates.

HOW SUPPLIED: Each orange, soft gelatin PROCARDIA Capsule contains 10 mg of nifedipine. PROCARDIA Capsules are supplied in amber glass bottles of 100 capsules (NDC 0069-2600-66).

The capsules should be protected from light and moisture and stored at controlled room temperature 59° to 77°F (15° to 25°C) in the manufacturer's original container.

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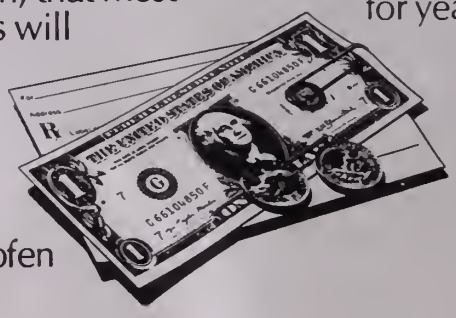
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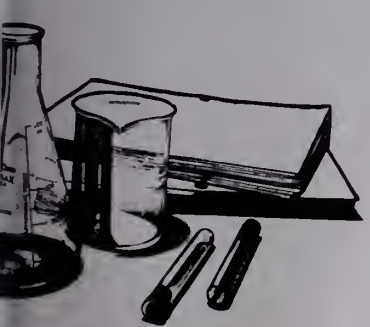
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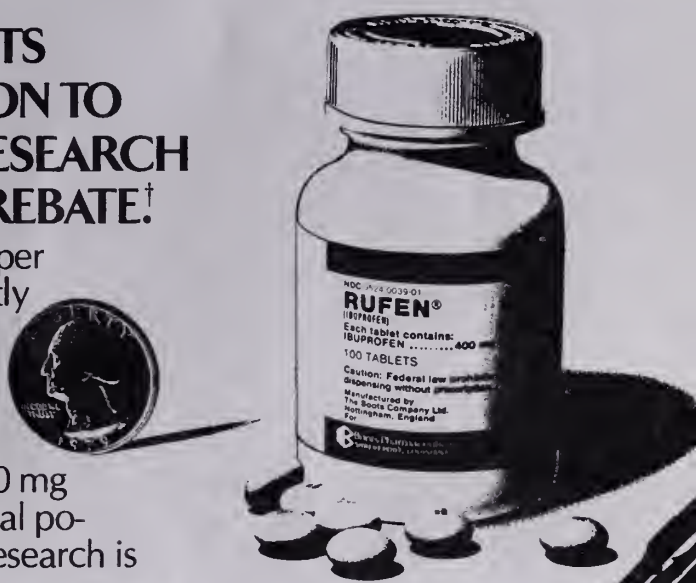
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5/81

RF-009

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(For full prescribing information, see package brochure)

RUFEN® Tablets
(ibuprofen)

INDICATIONS AND USAGE: Treatment of signs and symptoms of rheumatoid arthritis and osteoarthritis during acute flares and in the long-term management of these diseases. Safety and effectiveness have not been established for Functional Class IV rheumatoid arthritis.

Relief of mild to moderate pain.

CONTRAINDICATIONS: Patients hypersensitive to ibuprofen, or with the syndrome of nasal polyps, angioedema and bronchospastic reactivity to aspirin or other nonsteroidal anti-inflammatory drugs (see WARNINGS).

WARNINGS: Anaphylactoid reactions have occurred in patients hypersensitive to aspirin (see CONTRAINDICATIONS). Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration and gastrointestinal bleeding, sometimes severe, have been reported. Peptic ulceration, perforation, or gastrointestinal bleeding can end fatally; however, an association has not been established. Rufen should be given under close supervision to patients with a history of upper gastrointestinal tract disease and only after consulting the ADVERSE REACTIONS.

In patients with active peptic ulcer and active rheumatoid arthritis, nonulcerogenic drugs, such as gold, should be attempted. If Rufen must be given, the patient should be under close supervision for signs of ulcer, perforation or gastrointestinal bleeding.

PRECAUTIONS: Blurred and/or diminished vision, scotomata, and/or changes in color vision have been reported. If developed, discontinue Rufen and administer an ophthalmologic examination.

Fluid retention and edema have been associated with Rufen; caution should be used in patients with a history of cardiac decompensation.

Rufen can inhibit platelet aggregation and prolong bleeding time. Use with caution in patients with intrinsic coagulation defects and those taking anticoagulants.

Patients should report signs or symptoms of gastrointestinal ulceration or bleeding, blurred vision or other eye symptoms, skin rash, weight gain or edema.

To avoid exacerbation of disease or adrenal insufficiency, patients on prolonged corticosteroid therapy this therapy should be tapered slowly when adding Rufen.

DRUG INTERACTION: *Coumarin-type anticoagulants.* The physician should be cautious when administering Rufen to patients on anticoagulants.

Aspirin. Concomitant use may decrease Rufen blood levels.

PREGNANCY AND NURSING MOTHERS: Rufen should not be taken during pregnancy nor by nursing mothers.

ADVERSE REACTIONS

Incidence greater than 1%

Gastrointestinal: The most frequent adverse reactions is gastrointestinal (4% to 16%). Includes nausea*, epigastric pain*, heartburn*, diarrhea, abdominal distress, nausea and vomiting, indigestion, constipation, abdominal cramps or pain, fullness of GI tract (bloating and flatulence). **Central Nervous System:** dizziness*, headache, nervousness. **Dermatologic:** rash* (including maculopapular type), pruritus. **Special Senses:** tinnitus. **Metabolic:** decreased appetite, edema, fluid retention. Fluid retention generally responds promptly to drug discontinuation (see PRECAUTIONS).

*Incidence 3% to 9%.

Incidence less than 1 in 100

Gastrointestinal: gastric or duodenal ulcer with bleeding and/or perforation, hemorrhage, melena. **Central Nervous System:** depression, insomnia. **Dermatologic:** vesiculobullous eruptions, urticaria, erythema multiforme. **Special Senses:** amblyopia (see PRECAUTIONS). **Hematologic:** leukopenia, decreased hemoglobin and hematocrit. **Cardiovascular:** congestive heart failure in patients with marginal cardiac function, elevated blood pressure.

Causal relationship unknown

Gastrointestinal: Hepatitis, jaundice, abnormal liver function. **Central Nervous System:** paresthesias, hallucinations, dream abnormalities. **Dermatologic:** alopecia, Stevens-Johnson syndrome. **Special Senses:** Conjunctivitis, diplopia, optic neuritis. **Hematologic:** hemolytic anemia, thrombocytopenia, granulocytopenia, bleeding episodes. **Allergic:** fever, serum sickness, lupus erythematosus syndrome. **Endocrine:** gynecomastia, hypoglycemia. **Cardiovascular:** arrhythmias (Sinus tachycardia, bradycardia, and palpitation). **Renal:** decreased creatinine clearance, polyuria, azotemia.

OVERDOSAGE: Acute overdosage, the stomach should be emptied. Rufen is acidic and excreted in the urine, alkaline diuresis may benefit.

DOSAGE AND ADMINISTRATION: Rheumatoid arthritis and osteoarthritis, including flareups of chronic disease: Suggested dosage 400 mg t.i.d. or q.i.d.

Mild to moderate pain: 400 mg every 4 to 6 hours as necessary for relief of pain. Do not exceed 2,400 mg per day.

CAUTION: Federal law prohibits dispensing without prescription.

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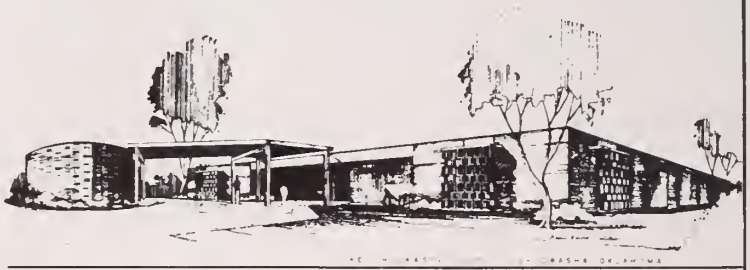
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STYLE

Footnotes, bibliographies, and legends for illustrations should be submitted on separate sheets, double-spaced. Bibliographies should follow in order of: name and author, title or article, name of periodical with volume number, page and date of publication. These references should be numbered in the sequence in which they appear in the article.

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NEWS

Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession.

ADVERTISING

All advertising copy must be approved by the Editorial Board before acceptance for publication. General and miscellaneous advertising rates will be sent on request.

EDITING SERVICE

The Editorial Board reserves the prerogative to submit contributions to a Medical Editing Service when warranted. If such is felt necessary, the Editor will contact the author for approval, informing him that there will be a modest charge for this service.

REPRINTS

Authors will receive reprint order forms from the Transcript Press, P.O. Drawer 1058, Norman, Oklahoma 73070, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.

BACK ISSUES

Microfilm copies of back issues of *The Journal* may now be purchased from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

1982 Convention — Diamond Jubilee



Have you blocked May 5-8 on your calendar as a "must attend" meeting? I hope so as that is when the Oklahoma State Medical Association Auxiliary is holding its annual convention in downtown Oklahoma City at the Skirvin Hotel. Our theme will be "75 Years of Auxiliary in Oklahoma" so share in this Diamond Jubilee celebration. Be sure and watch for the April issue of the *OSMA Journal* to see the full schedule of events.

It is with great pleasure that I announce our convention AMA Auxiliary guest — Isobel Dvorsky (Mrs. Harry S.), President of the AMA Auxiliary! Isobel is not only an exciting person to visit with but a very dynamic speaker. She hails from California but was born in Chicago and holds a BA in speech pathology from the University of Iowa. Before assuming the office of AMA Auxiliary president, she was a speech therapist in the public schools in San Leandro, California. In addition, she was responsible for helping to start a state pilot program in learning disabilities and is a member of the state committee with that responsibility.

Mrs Dvorsky has been a member of the AMA Auxiliary Board of Directors since 1975 and has served the national auxiliary as a Project Bank area counselor, Long-Range Planning Committee member, Western Regional vice president and first vice president. She has also been a member and chairman of the national Membership Committee.

On the state level, Mrs Dvorsky was state president, editor, and board member, as well as a member of the committee which began Project Re-Entry, a program for stroke victims; and a member of the original committee and co-author of the manual for Project LEARN, a program for children with learning disabilities.

Active in community affairs, Mrs Dvorsky is a member of the League of Women Voters, the AAUW, and California Elected Women's Association. She is a City Commissioner for Park and Recreation in San Leandro; and serves on a special city task force of parks and recreation, the Historical Commission, and the Shoreline Development Committee. *Sherry S. Strebel,* President □

Dr L. Sam Musallam, of Oklahoma City, has been appointed to the Public Relations Committee of the American Academy of Family Physicians (AAFP). The AAFP is the nation's second largest medical organization. Other Oklahomans serving on AAFP committees include Dr Kenneth Whittington, of Bethany, who was reappointed to the Chapter Affairs Committee, and Dr Arnold Nelson, of Midwest City, who serves on the Member Service Committee.

The 1983 National Conference on High Blood Pressure Control will be held April 20-22 at the Washington Hilton Hotel, Washington, DC. Dr Robert I. Levy, former director of the National Heart, Lung, and Blood Institute, will chair the conference. The theme will be "Challenge of Change in Hypertension Control: Maintaining the Momentum." Abstract submission forms will be available in May. To be put on a list to receive these forms, contact: Abstract Committee, National Conference on HBP Control, Kappa Systems, 1501 Wilson Boulevard, Arlington, VA 22209.

Dr Irvin Yalom, nationally acclaimed expert in group psychotherapy, will be the featured faculty member at a state-wide conference planned by the Oklahoma Chapter of the National Association of Social Workers. The conference is scheduled for March 25-26 at the Pebbletree Inn in Oklahoma City. Conference workshops will focus on such topics as social work administration, community organization, and clinical work with adolescents. Information on registration can be obtained by writing PO Box 2609, Norman, OK 73070.

The US Department of Health and Human Services (HHS) has set up a task force on hospital deregulation to coordinate and expedite the efforts of its various operating agencies to reduce, eliminate, or consolidate their rules. Robert Helms, deputy assistant secretary for planning and evaluation, is heading the task force. Task force members include representatives from the Health Care Financing Administration's Task Force on Regulatory Reform and the Office of the Assistant Secretary for Health. The task force was formed in response to directives of the Presidential Task Force on Regulatory Relief headed by Vice-President George Bush.

The American Lung Association of Oklahoma announces the 29th Annual Oklahoma Thoracic Society Pulmonary Conference to be held June 11-13 at Western Hills Lodge in Wagoner, Oklahoma. Featured speakers include Roger C. Bone, MD, Pulmonary Disease Section, University of Arkansas, and James A. Merchant, MD, Preventive Medicine and Environmental Health, University of Iowa. Dr Bone will present the Richard M. Burke, MD, Honorary Lecture on "Adult Respiratory Distress Syndrome," and Dr Merchant will speak on "Occupational and Industrial Lung Disease." For more information call the lung association at (405) 524-8471.

The AMA has received a $300,000 contract to help the National Health Service Corps (NHSC) place private-practice option physicians in communities where their practices will have a good chance for success. NHSC scholarship physicians who elect to take the private-practice option are released from their government obligations if they establish practices in areas where there is a shortage of health manpower. Under the new program, the AMA will identify and develop potential sites by matching a list of physician vacancies to a list of shortage areas and by working with local and state medical organizations to assure that the communities are receptive to the placements. For information on the program, contact the Department of Health Care Resources, AMA Heaquarters, (302) 751-5111. □

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Precautions: *General.* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

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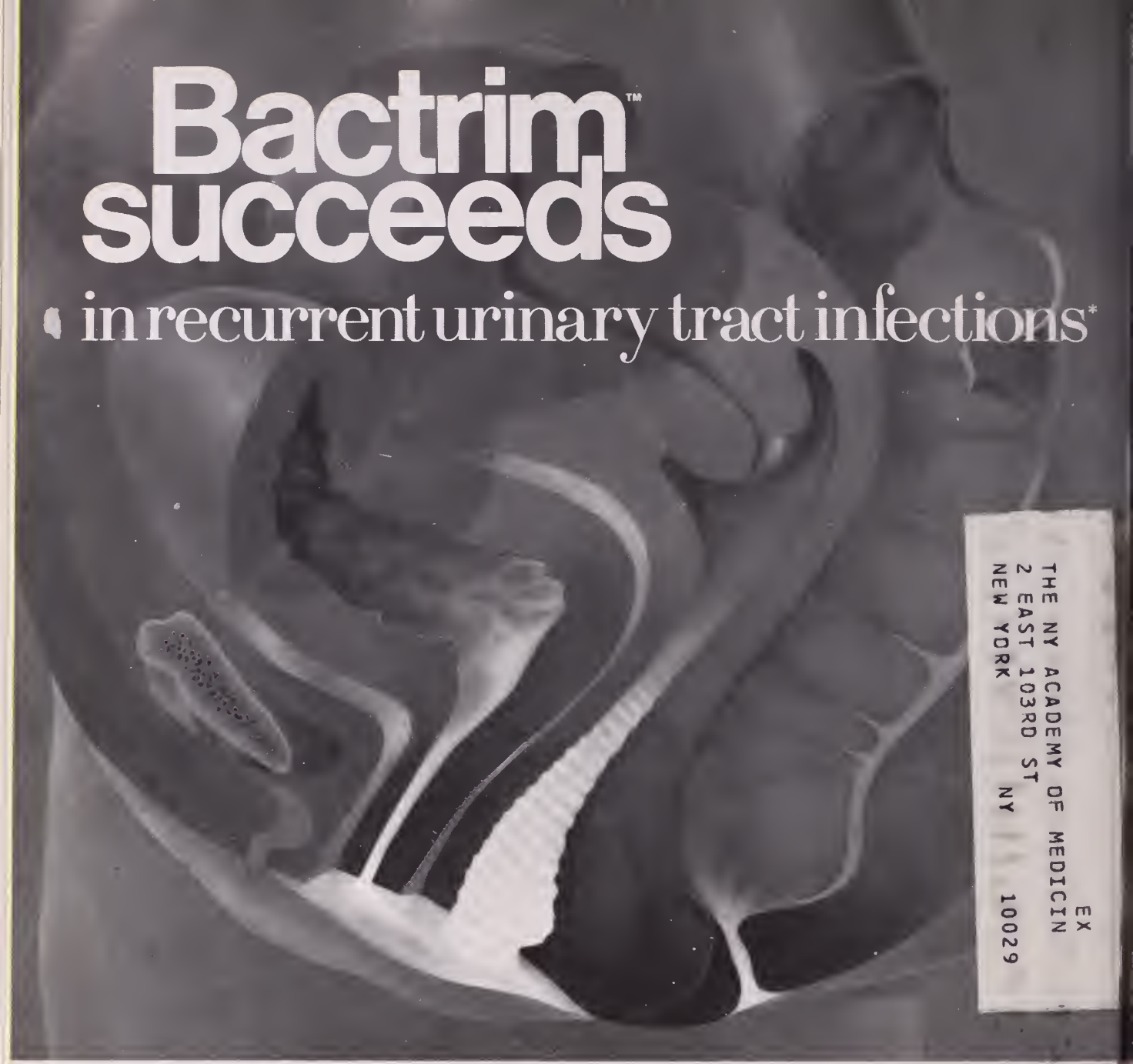
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1. Rubin RH, Swartz MN. *N Engl J Med 303*:426-432, Aug 21, 1980. **2.** Data on file, Medical Department, Hoffmann-La Roche Inc.

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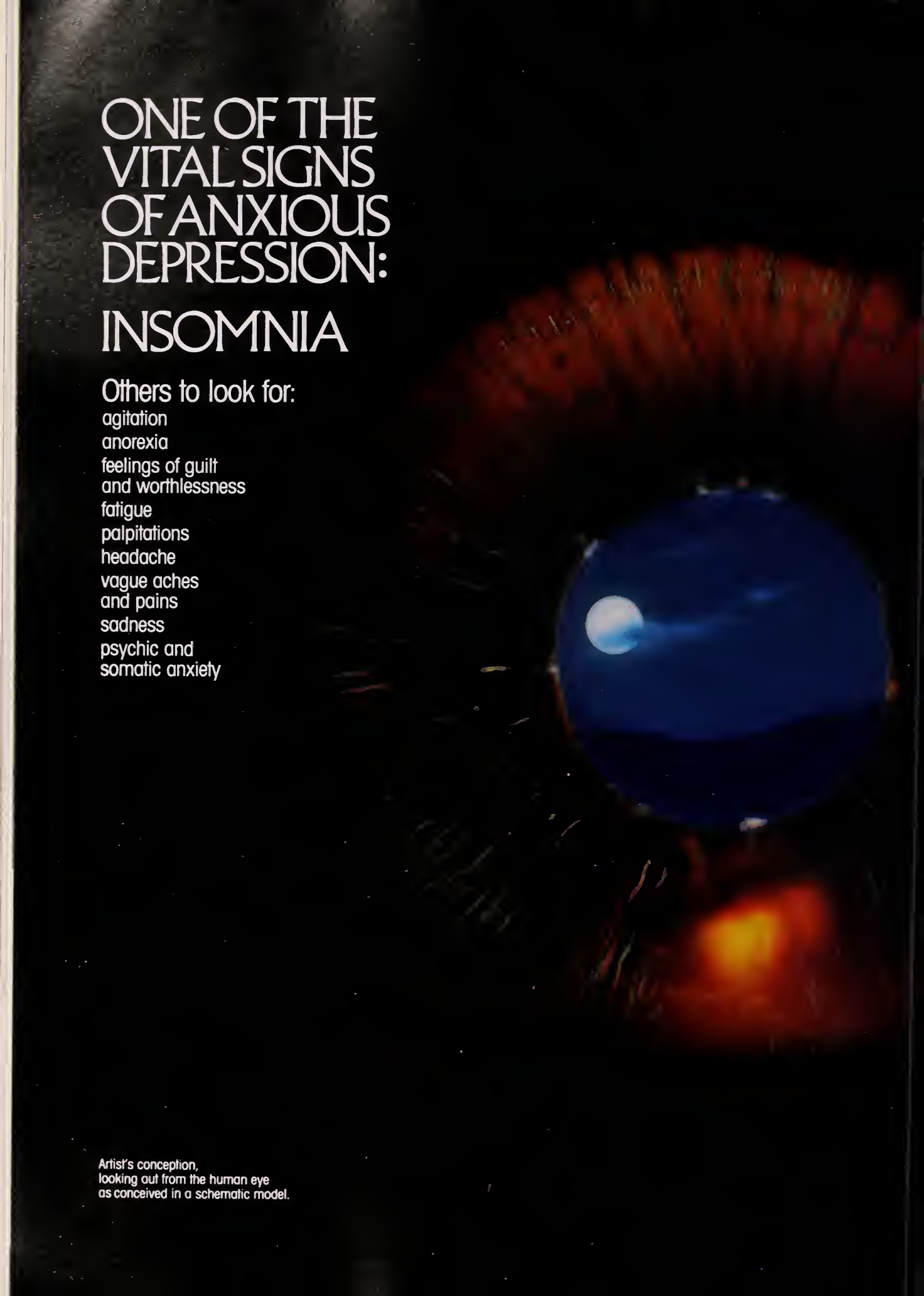
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Please see summary of complete product information on following page.

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Before prescribing, please consult complete product information, a summary of which follows:
Indications: Relief of moderate to severe depression associated with moderate to severe anxiety
Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use, then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.
Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).
***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**
Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage. Withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline, symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).
Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.
Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.
The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:
Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.
Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.
Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.
Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.
Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.
Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.
Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.
Endocrine: Testicular swelling and gynecomastia in the male; breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.
Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.
Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. IV administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.
Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly. Limbitrol 10-25, initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5, initial dosage of three to four tablets daily in divided doses, for patients who do not tolerate higher doses.
How Supplied: White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50.

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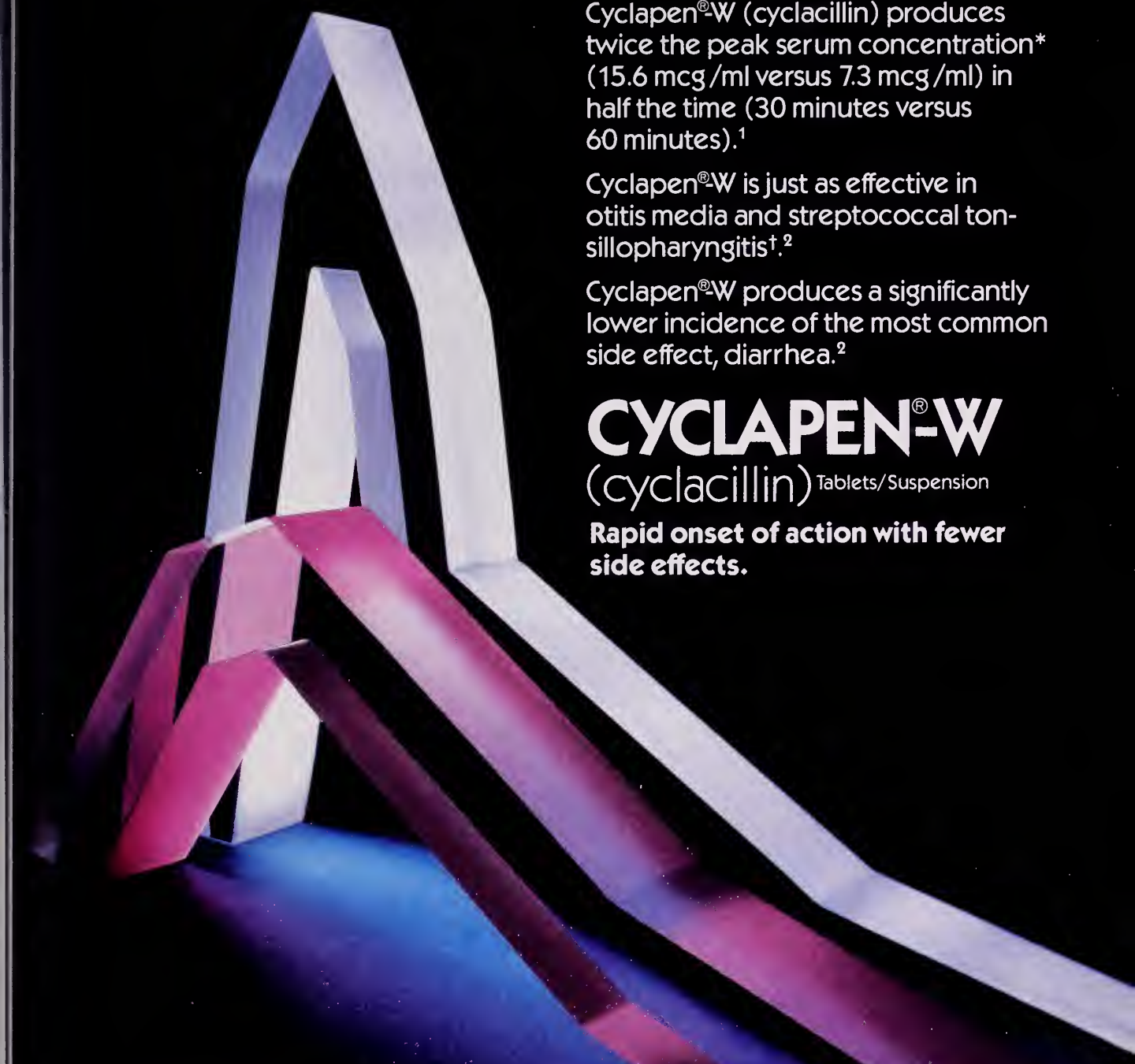
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1. Ginsburg CM, McCracken GH Jr, Zweighaft TC, Clahsen JC: Comparative pharmacokinetics of cyclacillin and amoxicillin in infants and children. *Antimicrob Ag Chemother* 19:1086-1088 (June) 1981.

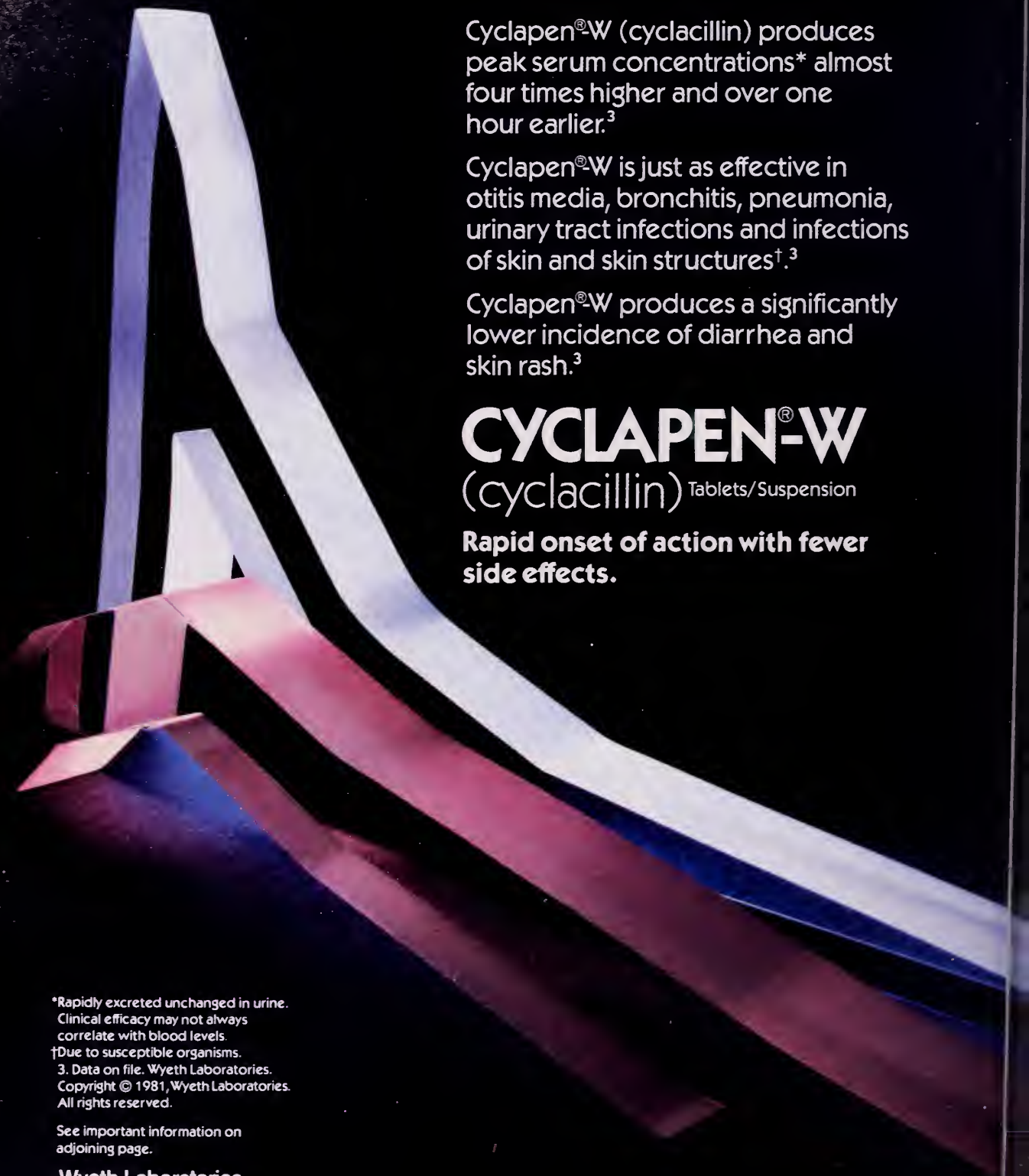
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Indications
Cyclacillin has less in vitro activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

RESPIRATORY TRACT
Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
Bronchitis and pneumonia caused by S. pneumoniae (formerly *D. pneumoniae*)
Otitis media caused by S. pneumoniae (formerly *D. pneumoniae*) and *H. influenzae*
Acute exacerbation of chronic bronchitis caused by *H. influenzae**
*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anophylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulanephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

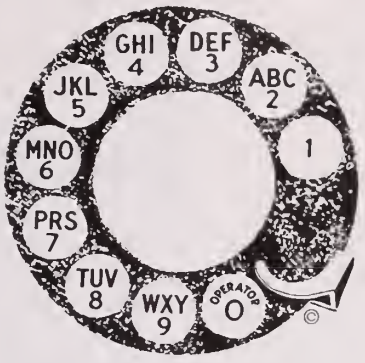
Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg q.i.d. body weight > 20 kg (44 lbs) 250 mg q.i.d.
Branchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

*Dosage should not result in a dose higher than that for adults.
†depending on severity

How Supplied Tablets 250 mg and 500 mg in bottles of 100. Oral Suspension 125 mg and 250 mg per 5 ml in bottles to make 100 ml and 200 ml of Suspension.

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What To Do About the Infant With Apnea

The infant with alleged apnea presents the medical practitioner with a dilemma — should an apnea monitor be prescribed for home use? The solution requires consideration of four issues: confirmation of the diagnosis, risk of the infant's subsequent sudden death, parental anxiety, and the impact of home monitoring on family life.

Even though the parents may provide a credible description of apnea, medical evaluation of the infant is mandatory. Infantile apnea has a multitude of causes such as prematurity, infection, hypoglycemia, metabolic imbalance, drug toxicity, gastroesophageal reflux and upper airway obstruction. The latter can result from spontaneous neck flexion,[1] diminished laryngeal muscle tone during rapid eye movement (REM) sleep[2] or structural malformations, as in the Robin anomalad.[3] Family history, physical examination, blood gases, serum electrolytes and glucose, cultures, toxicologic analysis, electrocardiogram and radiographic examination of the upper and lower respiratory tract allows one to identify many of these etiologic factors, however, when they are negative, additional testing is necessary. Exaggerated apnea during sleep is another, but more subtle cause of pathologic apnea.[4] Only by polygraphic analysis of respiration during an overnight (rather than two-hour)[5] sleep interval can its existence be proven. The infant's results are compared with age-matched control values for differentiation of central, mixed and obstructive apnea during active and quiet sleep. Furthermore, the data must be interpreted with knowledge of the infant's medication, such as theophylline.[6] Simultaneous continuous esophageal pH monitoring and ventilatory response to carbon dioxide inhalation can be done to identify gastroesophageal reflux and aberrant chemoreceptor function, respectively. These studies require a sophisticated sleep physiology laboratory and appropriately trained technicians.

Parental anxiety regarding the possibility of the sudden unexpected death of their apneic infant cannot be overestimated, especially in those families who equate infantile apnea with sudden infant death syndrome (SIDS). Evidence associating apnea with SIDS has been accumulating over the last decade. Most of these studies have been concerned with respiratory abnormalities occurring among subsequent siblings or parents of SIDS victims and infants with life-threatening apnea considered to be at risk for SIDS.[4-13] Significant and, occasionally, conflicting differences have been found among these three groups indicating that different pathophysiologic mechanisms may be functioning. Despite supportive data, a cause-and-effect relationship between infantile apnea and SIDS has yet to be proven. While it is our opinion that sleep apnea represents a significant risk factor, we are also of the opinion that SIDS represents not a single entity but, rather, a final common pathway to a diversity of disorders which may or may not be associated with apnea. Not all apneic episodes terminate in SIDS and not all SIDS events are known to be preceded by apnea. Efforts to clarify this controversy will partially alleviate the anxiety experienced by those associated with an apneic infant.

The risk of sudden death in infants with apnea is unknown. Estimates have ranged from 20 to 100%.[14] This wide range obviously makes accurate prediction impossible. The lower figure is perhaps even too high in most settings. But an apneic infant born to parents who have lost two or more infants to SIDS probably has a high risk of death. Familial recurrent apnea may be an autosomal dominant disorder with a high degree of penetrance[8] and, as such, the family history is very important to appropriate counseling.

The impact of home monitoring on family life should be addressed. There seems to be little doubt that the home monitor has provided the opportunity for some parents to resuscitate successfully their babies when found with a lifeless appearance. This fact alone essentially

justifies the use of the home monitor in *selected* families; but home monitoring is expensive, usually of long duration and disruptive. Acceptable home monitors cost approximately $1500. A monitoring program usually lasts several months, not a few days. And, when home monitoring is deemed appropriate, several conditions must absolutely be met. The most basic of these are parental (and baby sitter) skills in infantile cardiopulmonary resuscitation, and a working knowledge of monitor function and minor repair. Contingencies for emergencies must be planned in advance. But they alone are inadequate. Those who have systematically observed numerous families utilizing home monitors have concluded that a 24-hour-per-day, seven-day-per-week support system is crucial to their well being.[15] A support team is ideally composed of physicians, psychologists, nurses and monitor technicians constantly available to respond to these families' needs.

Approximately 60% of parents with an infant requiring a home monitor have reported that their lives were "significantly or drastically" affected, and nearly three-fourths depended heavily upon the home apnea support team.[15] Occasionally, psychological stress persists beyond the time the infant is deemed to require a home monitor. Every family member is affected, but the mothers are the most victimized.

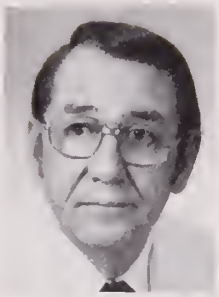
Lastly, what should one do about parents who demand a monitor for their infant despite lack of apparent medical indication. These parents are most frequently those who have previously lost an infant to SIDS. It is our opinion that they should not be denied a monitor, provided the parents are clearly cognizant of the results of a comprehensive medical evaluation of their baby. Also, these parents require the same team of support personnel in order to cope effectively with the impact of the home monitor.

REFERENCES

1. Thach, B. T. and Stark, A. R.: Spontaneous Neck Flexion and Airway Obstruction During Apneic Spells in Preterm Infants, *J. Pediatr.* **94**:275-281, 1979.
2. Megirian, D. and Sherrey, J. H.: Respiratory Functions of the Laryngeal Muscles During Sleep, *Sleep* **3**:289-298, 1980.
3. Smith, D. W.: Recognizable Patterns of Human Malformations, Second Edition, 1976 W. B. Saunders Co., pp. 130-131.
4. Guilleminault, C., Ariagno, R., Korobkin, R., et al: Mixed and Obstructive Sleep Apnea and Near Miss for Sudden Infant Death Syndrome: 2. Comparison of Near Miss and Normal Control Infants by Age, *Pediatr.* **64**:382-391, 1979.
5. Guilleminault, C., Ariagno, R., Korobkin, R., et al: Sleep Parameters and Respiratory Variables in "Near Miss" Sudden Infant Death Syndrome Infants, *Pediatr.* **68**:354-360, 1981.
6. Kelly, D. H. and Shannon, D. C.: Treatment of Apnea and Execessive Periodic Breathing in the Full-Term Infant, *Pediatr.* **68**:183-186, 1981.
7. Guilleminault, C., Ariagno, R. L., Forno, L. S., et al: Obstructive Sleep Apnea and Near Miss for SIDS: 1. Report of an Infant with Sudden Death, *Pediatr.* **63**:837-843, 1979.
8. Steinschneider, A.: Prolonged Apnea and the Sudden Infant Death Syndrome: Clinical and Laboratory Observations. **50**:646-654, 1972.
9. Shannon, D. C., Kelly, D. H. and O'Connell, K.: Abnormal Regulation of Ventilation in Infants at Risk for Sudden Infant Death Syndrome, *New Engl. J. Med.* **297**:747-750, 1977.
10. Haddad, G. G., Walsh, E. M., Leistner, H. L., et al: Abnormal Maturation of Sleep States in Infants with Aborted Sudden Infant Death Syndrome, *Pediatr. Res.* **15**:1055-1057, 1981.
11. Hoppenbrouwers, T., Hodgman, J. E., McGinty, D., et al: Sudden Infant Death Syndrome: Sleep Apnea and Respiration in Subsequent Siblings, *Pediatr.* **66**:205-214, 1980.
12. Kelly, D. H., Walker, A. M., Cahen, L., et al: Periodic Breathing in Siblings of Sudden Infant Death Syndrome Victims, *Pediatr.* **66**:515-520, 1980.
13. Kanarek, D. J., Kelly, D. H. and Shannon, D. C.: Ventilatory Chemoreceptor Response in Parents of Children at Risk for Sudden Infant Death Syndrome, *Pediatr. Res.* **15**:1402-1405, 1981.
14. Kelly, D. H., Shannon, D. C. and O'Connell, K.: Care of Infants with Near-Miss Sudden Infant Death Syndrome, *Pediatr.* **61**:511-514, 1978.
15. Black, L., Hersher, L. and Steinschneider, A.: Impact of the Apnea Monitor on Family Life, *Pediatr.* **62**:681-685, 1978.

Henry F. Krous, MD, Medical Research Board, National Sudden Infant Death Syndrome Foundation; President, Board of Trustees, Oklahoma Chapter, National Sudden Infant Death Syndrome Foundation.

Debra Bendell, PhD, Board of Trustees, Oklahoma Chapter, National Sudden Infant Death Syndrome Foundation.



On May 8 you are going to have a new president. He needs no introduction but just to refresh your memory his name is John A. McIntyre of Enid. This man is intelligent, kind, humble, and fair. He has served in almost every capacity at the state level except president, and best of all he is capable. We are indeed fortunate to have this man guide us during the next year.

I will admit frankly that I did enjoy my tenure. With a staff like ours you either do your job or they do it for you. They make you look good even if you aren't.

Dave Bickham has an extraordinary ability to organize and run an efficient staff. He knows who does what best and assigns and delegates accordingly. Lyle Kelsey and Rick Ernest do their respective jobs well and it has been a pleasant task to work with all these people.

Anita Delaporte is our newest addition to the staff. Her title is director of communications. She is innovative and has been very helpful in the PR field. She is also a good ghost speech writer.

What can anyone say about Louise Martin? Long-time faithful employee — if it weren't for her I wouldn't be up writing this last president's page at 4:30 AM. You can tell by the quality of our *Journal* what kind of work she and Mark Johnson, the editor of the *Journal,* do.

Ed Kelsay, our legal counsel, our advisor, our malpractice prevention expert, our PR man, our whatever we need man, is always there when we need him — he's the best.

One of the pleasures of the past year has been renewing acquaintances and making new friends over the state where I have been invited by the various county societies. It's a real shame that we don't have a more equitable distribution of physicians over the state since too many of these doctors are working far too long and hard. In spite of this they are doing a most creditable job.

At the beginning of my term, I appointed seven council chairmen and roughly 150 members to the various councils from throughout the state. These are chaired by Floyd Miller, Earl Bricker, Joe Crosthwait, Chet Bynum, Perry Lambird, John Blaschke, and John Alexander. Now you can't buy this kind of help on the open market so we don't try — consequently they work for free. We are trying to set an example for our government. These are active councils that require a lot of time and travel by all the members, and I want to express my thanks to you for all those person-hours.

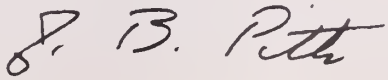
I have had a close working relationship with your treasurer, Armond Start. As Ed Calhoon from Beaver would say, "He has deep pockets and short arms." I have also visited four prisons with him and have seen firsthand how the medical care has been upgraded, thanks to him. We should all be pleased that he heads the medical department for all ten institutions in the Department of Corrections in Oklahoma.

I want to give one great big accolade to Sherry Strebel, the president of the OSMA Auxiliary, and her staff. She has traveled many miles visiting other auxiliaries over the state. She is most organized and effective. This is reflected in the increased membership — an excellent job.

I would certainly be remiss if something wasn't said about my associate, Earl Bricker. It's been harder on him than it was on me; he has covered for me innumerable times when I was out of the office and did so graciously. What I was really doing was testing our relationship to see if it could last another 22 years!

My first great decision was to marry my first wife, Doris. After this past year, and 38 others, we are still holding hands — if we ever let go we may kill each other.

I thank all of you for allowing me to be president of the OSMA.



OSMA JOURNAL / scientific

Flank Ecchymosis Associated with Rectus Sheath Hematoma

CASE REPORT

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Ecchymotic discoloration of the flank has long been a clue to a serious hemorrhagic illness. However, it can be a misleading finding.

Spontaneous rupture of the deep epigastric vessels creating a rectus sheath hematoma has been recognized for centuries.[1] The perplexing symptoms and signs of this clinical entity frequently lead to emergency laparotomy for a supected intra-abdominal catastrophe. Hence, articles have appeared attempting to increase awareness of this uncommon illness and to facilitate early recognition. A clue to the presence of a rectus sheath hematoma is an ecchymotic discoloration about the umbilicus (Laffont sign) although its appearance is indistinguishable from the more ominous sign described by Cullen.[2] We have observed a patient with the classical features of this disease who also had ecchymosis of the flank — a sign usually indicative of a more serious condition.

R. C., a 59-year-old white female, presented to the emergency room complaining of abdominal pain. Six days earlier she had noted the onset of a non-productive cough, four-to-six loose stools daily and general malaise. Three days prior to admission the loose stools stopped but the urge to defecate without evacuation persisted. Two days prior to admission she noted rapid onset of left upper quadrant abdominal pain during a paroxysm of coughing. The pain was constant in nature and notably worsened by coughing and movement. The pain progressively worsened, she became anorectic and then sought medical attention.

Examination revealed an obese white female in moderate distress. Blood pressure with the patient supine was 184/120 without orthostatic drop and the pulse was 120 per minute. She was afebrile. Examination of the abdomen revealed markedly hypoactive bowel sounds. The left upper quadrant was tender to palpation and there was voluntary guarding. There was a four-by-six centimeter mass vaguely palpated in the area of tenderness but definite borders could not be identified because of guarding. Liver and spleen were not palpated. The findings on rectal examination were unremarkable and the stool guaiac was negative.

Laboratory studies revealed a white blood cell count of 3,800/cu mm with 48% neutrophils and 33% bands. Hemoglobin was 15.3 gm%. Platelets were adequate and the prothrombin time/partial thromboplastin time were normal. Electrolytes were normal except for a low potassium which was 2.9 mEq/litre. Urea nitrogen and creatinine were normal. Serum amylase was normal and the urinalysis was unremarkable.

Radiographs of the abdomen taken of the patient in the supine and upright positions revealed no specific abnormality.

The patient was admitted for control of her hypertension, correction of hypokalemia, and further observation. A barium enema obtained on the second hospital day was unremarkable. On the third hospital day an ecchymoric discoloration of the umbilicus as well as a faint discoloration of the left flank were noted. Hemoglobin value was unchanged. On the fourth hospital day, frank ecchymosis was present in the left flank. A computerized axial tomographic scan of the abdomen was requested to seek evidence of retroperitoneal bleeding. An oval-shaped mass suggested a hematoma was present in the left anterior abdominal wall. The diagnosis of a rectus sheath hematoma was made and the patient was treated conservatively with local heat and mild analgesics. The abdominal pain rapidly abated over the next 48 hours and the patient was discharged in good condition.

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DISCUSSION

Discoloration of the abdominal wall may follow either an intra- or extra-peritoneal hemorrhage. It may occur directly adjacent to the hemorrhage as noted by Wyatt[3] or remote to the bleeding site — eg, perianal ecchymoses associated with retroperitoneal hemorrhage.[4] The location of the ecchymoses however is not specific for a particular disease. Rather, it reflects the direction of dissection of blood along contiguous fascial planes. It should alert the physician only to the occurrence of a hemorrhagic event; not its origin.

Ecchymotic discoloration of the flank reported by Grey-Turner[5] in 1919 was believed to be a sign of hemorrhagic pancreatitis. Since that report, flank discoloration has been noted with many entities causing retroperitoneal hemorrhage, including rupture of abdominal aortic aneurysm.[6] Although the origin of the bleeding is variable the associated illness is invariably critical.

Our patient demonstrated both periumbilical and flank ecchymosis associated with a superficial hematoma. It is reminiscent of the association made by Laffont and illustrates the fact that flank discoloration does not always signal a catastrophic illness.

BIBLIOGRAPHY

Reference Works

1. Payne, R. L., "Spontaneous Rupture of Superior and Inferior Epigastric Arteries within the Rectus Sheath," *Annals of Surgery*. 108, 757, 1938.

2. Cullen, T. S. "Bluish Discoloration of the Umbilicus as a Diagnostic Sign where Ruptured Extra Uterina Pregnancy Exists," Reprinted from *Contributions to Medicine and Biological Research, Dedicated to Sir. William Osler*. **Volume I**, page 420.

3. Wyatt, G. M., Spitz, H. B., "Ultrasound in the Diagnosis of Rectus Sheath Hematoma," *J.A.M.A.* 1979, 6 April, 241, (14): pages 1499-1500.

4. Kaplan, Arnold P., Brown, David C. and Larson, Jerrold, "Black Bottom: A Sign of Retroperitoneal Bleeding." *Minnesota Medicine*, **60** (3), pages 161-162, March, 1977.

5. Turner, G. G., "Local Discoloration of the Abdominal Wall as a Sign of Acute Pancreatitis," *British Journal of Surgery*. 7:394, January, 1920.

6. Barratt-Boyes, B. G., Symptomatology and Prognosis of Abdominal Aortic Aneurysm," *Lancet*. 2:716, 1957.

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Exercise Stress Testing Office Based

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This paper is written as a review of the significant information and the current state of the art of the exercise stress test as it applies to the clinic setting.

Until recently, the exercise stress test was performed almost exclusively in the hospital-based exercise laboratory. Now that the exercise stress test has proven itself to be safe, reliable and relatively easily performed, many physicians have introduced it in the clinic setting.

HISTORICAL REVIEW

One of the first situations where exercise was utilized in the diagnosis of coronary artery disease was by Feil and Segal[1] in 1928. They would exercise a patient in an attempt to bring on anginal pain, which was considered diagnostic of coronary artery disease. It was not until 1941 that Masters and Jaffe[2] proposed that the post-exercise electrocardiogram could be used to determine the presence of coronary artery insufficiency.

Our present methodology for the stress test can be best dated to the work of Bruce[3] in 1956. His report was of a "work-test" that was performed on the treadmill.

PHYSIOLOGY

An in-depth discussion of exercise physiology is beyond the scope of this paper, although we will discuss, in synopsis form, the basic changes that exercise brings about.

The body's response to exercise begins almost instantaneously although a steady state may not be reached for several minutes. As the work-load is gradually increased, there is a gradual increase in the heart rate, respirations and the systolic blood pressure. The diastolic blood pressure generally stays about the same or undergoes a small incremental drop. Also there is a gradual increase in the cardiac output, but the stroke volume increases only slightly unless the heart rate is unable to respond to the increased oxygen demand.

Peripherally there is vasoconstriction in the skin and other non-vital organs. In the exercising muscle there is vasodilation in response to the increased oxygen demand and the presence of various metabolites. Alterations in the regional resistance are so graded that the blood flow to the kidneys and brain show little

Table I
INDICATIONS FOR EXERCISE STRESS TESTING

1. Confirmation of clinically suspected coronary artery disease.
2. Evaluation of the degree of cardiac dysfunction.
3. Evaluation of a therapeutic regimen.
4. The determination of cardiac fitness.
5. The identification of latent coronary artery disease.
6. Post-myocardial infarction evaluation.
7. Post-coronary-artery-bypass surgery evaluation.

change. Milnor[1] notes that under normal conditions there is also little change in the arterial oxygen saturation during exercise.

The neural receptors, most active during exercise, are those found in the contracting muscles, namely the smooth muscle cells and the terminal arterioles. These receptors are mainly affected by the pO_2 level and the presence of certain metabolites. Their primary effect is that of vasodilation within the exercising muscle. The resultant increase in the blood flow through the working muscle is secondary to: 1) an increase in the cardiac output, usually 5-6 times that of the resting state, 2) capillary arteriolar dilation in the active muscles, thus reducing flow resistance, and 3) a compensatory vasoconstriction of the larger, more active vascular beds, such as in the skin and viscera which results in the shunting of the principal blood flow to the exercising muscles.

INDICATIONS AND CONTRAINDICATIONS

For the safe application of any test, the examiner must have a clear understanding of the proper indications and contraindications of the procedure. Table I lists the more common indications for stress testing, and in Tables II and III are some of the more common situations in which exercise stress testing is contraindicated. Some of the more recent applications of the exercise stress test are in post-myocardial infarction patients and in patients who have undergone coronary artery bypass surgery.

Table II
ABSOLUTE CONTRAINDICATIONS FOR EXERCISE STRESS TESTING

1. Acute myocarditis or pericarditis.
2. Unstable or progressive angina.
3. Ventricular tachycardia, particularly when three or more PVC's are coupled in succession.
4. Marked systemic infection or hyperthyroidism.
5. Severe aortic stenosis.
6. Ataxia, or gross disturbances in gait.
7. Significant vertigo or visual disturbances.

Table III
RELATIVE CONTRAINDICATION TO EXERCISE STRESS TESTING

1. Frequent PVC's that are not coupled and no "R-on-T" phenomena.
2. Acute myocardial infarction, or a previous infarction that occurred less than two weeks earlier.
3. A high degree AV block.
4. Congestive heart failure.
5. A high grade left main coronary artery lesion or its equivalent.
6. Thrombophlebitis.
7. Excessive ST segment depression on the resting electrocardiogram (greater than 4 mm).
8. Sustained supraventricular tachycardia with a rapid ventricular response.
9. Severe lung disease.

POST-MYOCARDIAL INFARCTION

In the post-myocardial infarction patient, a low-level exercise protocol, such as the Naughton[9] or the Sheffield[10] is utilized. The exercise stress test obtained in a patient ten-to-fifteen days post-myocardial infarction permits the physician to ascertain whether the patient can ambulate safely and to what level, thus aiding in the identification of the high risk patient. This exercise test is terminated immediately if the patient develops chest pain, dyspnea, fatigue, dizziness, demonstrates a fall in the systolic blood pressure, or attains a heart rate of 120/min (110/min if the patient is taking beta-adrenergic blocking drugs). The test should also be terminated if there is greater than 1mm of ST segment elevation or 2mm of S segment depression.

POST-CORONARY-ARTERY-BYPASS SURGERY

A low-level exercise protocol is also utilized in the post-coronary-artery-bypass patient. Ideally the comparison of a pre- and post-operative exercise stress test yields the most useful information. In one study by Amsterdam and Masson,[24] a comparison was made of the ST-segment and the double product response both before and after coronary-artery-bypass surgery. They noted that an improvement in the post-operative exercise stress test correlated quite well with good graft patency as demonstrated by coronary angiography.

Table IV
DRUGS CAPABLE OF PRODUCING ST SEGMENT CHANGES

1. Clofibrate
2. Digitalis
3. Doxorubicin
4. Guanethedine
5. Hydralazine
6. Phenothiazine
7. Quinidine
8. Sympathomimetic amines
9. Tricyclic antidepressants

Perhaps a more significant finding was that in patients who demonstrated a worsening response to exercise there was a higher incidence of graft closure or progression of disease.

METHODOLOGY

Proper patient preparation is generally the most overlooked aspect of the exercise stress test. The patient should be instructed as to the appropriate apparel and foot wear. Athletic shoes are ideal, (not a must) but the patient should be discouraged from wearing boots, high heels or slippers. Generally some type of light clothing, such as slacks and a shirt, is the preferred attire. The patient should be advised to abstain from eating for at least two hours prior to testing, and the preceding meal should be light and free of butter, coffee, cream, tea and alcohol.

We generally have the patient continue their medication as prescribed, except in unusual circumstances. It is also a good practice to have the patient bring all medications (both prescribed and over the counter) that they are taking to the stress laboratory.

It is extremely important that the examiner know which drugs the patient is taking in order to make an accurate interpretation of the test results. Tables IV and V list a few of the drugs that can have an adverse effect on the outcome and interpretation of the exercise stress test.

There are two general categories of exercise stress tests: 1) the single stage (eg, the Master's Step Test) which consists of a single work load, and 2) the multi-stage which consists of a multi-level exercise protocol. The multi-stage begins at a low level of work and gradually increases until the patient nears or reaches his maximal effort or some other predetermined level of termination.

It is our impression that the treadmill is the preferred mode of testing the native subject, primarily because we are more accustomed to walking than bicycling. The treadmill brings into play the larger muscle groups, which results in less localized fatigue. The two main disadvantages of the treadmill are: 1) it utilizes expensive equipment, and 2) it requires a significant amount of laboratory space.

The bicycle ergometer, on the other hand, is relatively economical and requires only a small amount of laboratory space. Its primary disadvantage is that often the patient is hampered by musculoskeletal symptoms before a desired hemodynamic end-point can be reached.

Table V
DRUGS WHICH CAN PRODUCE FALSE NEGATIVE EXERCISE STRESS TEST RESPONSES

1. Aminophyllin preparations
2. Amyl nitrite
3. Dipyridamole
4. Erythrityl tetranitrates
5. Isosorbide dinitrate
6. MAO inhibitors
7. Metoprolol
8. Nadolol
9. Nitroglycerin preparations
10. Pentaerythritol tetranitrate
11. Propranolol
12. Verapamil

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Table VI
TREADMILL EXERCISE STRESS TEST PROTOCOLS

Protocol	Duration per stage	Stage I MPH/%Grade	Stage II MPH/% Grade	Stage III MPH/% Grade	Stage IV MPH/% Grade	Stage V MPH/% Grade	Stage VI MPH/% Grade
		MET/0_2 Rq*	MET/0_2 Rq	MET/0_2 Rq	MET/0_2 Rq	MET/0_2 Rq	MET/0_2 Rq
Bruce[3]	3 min	1.7/10%	2.5/12%	3.4/14%	4.2/16%	5.0/18%	6.0/20%
		5.0/17.5	7.0/24.5	10.0/35	13.5/47.3	16.0/56	19.0/66
Ellestad[5]	3 min	1.7/10%	3.0/10%	5.0/10%			
		5.0/17.5	7.5/26.3	14.0/49			
Kattus[7]	3 min	1.0/10%	1.5/10%	2.0/10%	2.5/10%	3.0/10%	3.5/10%
		2.0/7	5.0/17.5	6.0/21	6.5/23	7.0/24.5	8.5/30
McHenry[8]	3 min	2.0/3%	3.3/6%	3.3/9%	3.3/12%	3.3/15%	3.3/18%
		3.0/10.5	5.5/19.3	7.0/24.5	8.5/30	10.0/35	12.0/42
Naughton[9]	3 min	1.0/0%	1.5/0%	2.0/0%	2.0/3.5%	2.0/7%	3.0/10%
		1.6/5.6	2.0/7.0	2.5/9.0	3.5/12	5.0/17.5	7.0/24.5
$Sheffield_{10}$	3 min	1.7/0%	1.7/5%	1.7/10%	2.5/12%	3.4/14%	4.2/16%
		2.0/7	3.0/10.5	5.0/17.5	7.0/24.5	10.0/35	13.5/47.3

*MET: the basal 0_2 requirement of the body in an inactive state, sitting quietly. Considered by most authorities to be 3.5ml 0_2/kg/min. (0_2 requirement units.).

There are numerous, excellent exercise protocols as demonstrated in Table VI; but for the most part, we prefer the Bruce protocol.

The level at which the exercise stress test is terminated remains a controversial aspect. Table VII is a compilation of the more common indications for termination of the exercise stress test.

Table VII
INDICATIONS FOR TERMINATION OF THE EXERCISE STRESS TEST

1. The patient voluntarily wishes to stop the test.
2. Attainment of the target heart rate, usually 90% of the predicted maximum (Table X)
3. The patient attains his/her maximal effort.
4. PVC's coupled in pairs or with an increased frequency, or when a run of ventricular tachycardia develops.
5. Atrial tachycardia, or atrial fibrillation with a rapid ventricular response.
6. The onset of a varying degree of heart block.
7. Progressive or severe anginal pain.
8. ST segment depression that becomes greater than 4.0 mm.
9. The pulse and/or systolic blood pressure progressively drop, even in the face of continuing exercise.
10. The patient is unable to continue because of dyspnea, fatigue, or feeling faint.
11. Signs of vertigo or visual disturbances.
12. Musculoskeletal pain that becomes severe.
13. The patient appears vasoconstricted, eg, pale, clammy, or cyanotic.
14. Extreme elevation in the blood pressure; maximum systolic 220 mm Hg. and maximum diastolic 130 mm Hg.

*The key to proper termination is the constant observation of the patient and the subjective and objective information provided during the entire testing procedure.

Continuous electrocardiographic monitoring, utilizing an oscilloscope is mandatory. It is also advisable to have an electrocardiogram, resting pulse rate and resting blood pressure. During the test, the patient's blood pressure, heart rate and an electrocardiographic tracing should be obtained at least every three minutes. Once the patient has reached the point of exercise termination, the treadmill should be lowered to the initial speed and allow the patient to "cool down" for at least one minute before stopping the test completely. This reduces the likelihood of precipitating a vasovagal response. After the one-minute cool-down the patient is asked to step off the treadmill and sit in a chair during the recovery period. (Some examiners prefer to have the patient placed in the supine position during this period.) Patient monitoring should be continued during the recovery period (usually about five to ten minutes). The recovery-period monitoring should be continued until all electrocardiographic and blood pressure changes return to pre-test levels. If anginal pain or significant ST segment changes are present, sublingual nitroglycerin is administered.

INTERPRETATION

ST Segment Changes. Presently, the most widely accepted criterion for the determination of an abnormal exercise stress test is that of ST segment displacement present in the electrocardiogram. Numerous studies[12, 19, 20-23]

Table VIII
ST SEGMENT CRITERIA EFFECT ON SENSITIVITY AND SPECIFICITY

Study	ST Segment Criteria	Sensitivity	Specificity
Bruce[12]	1.0 mm depression	60%	90%
Mason[20]	0.5 mm depression	94%	57%
Ryan[21]	2.0 mm depression	20%	98%

have shown that there is an excellent correlation of the coronary angiographic findings with the criteria of 1.0 mm or greater of ST segment displacement on the electrocardiogram. The use of the 1.0 mm or greater ST segment displacement criterion reduces the incidence of false-positives and false-negatives as can be noted in Table VIII.

Significant ST segment displacement is defined as 1.0 mm of depression or elevation at the 0.08-second intrinsicoid. It has been shown that the development of ST segment displacement early-on in the exercise stress test is highly suggestive of multi-vessel disease or the presence of a significant lesion in the left main coronary artery.

"J-Point" Depression. A "normal" ST segment change that can be noted during the stress test is that of "J-Point" depression. "J-Point" depression is the accentuation of the rate of rise of the ST segment slope. Normally there is only a slight depression, but if the depression becomes greater than 1.5 mm, coronary artery disease should be suspected. In at least one study by Robb and Marks,[11] mild "J-Point" depression (less than 1.0 mm) was not only normally present after exercise, but the survival rate of the insurance policy holder with the mild "J-Point" depression was better than those individuals with a completely "normal" ST segment.

ST Segment Elevation. There is a small percentage of individuals that will have horizontal ST segment elevation.[6, 12, 13] When the ST segment elevation is equal to or greater than 1.0 mm, it is considered to be specific for the presence of coronary artery disease. This type of phenomenon is generally seen in patients with Prinzmetal or variant angina. ST segment elevation on exercise stress testing is quite rare, and most patients with Prinzmetal or variant angina have normal exercise stress test responses.

U-Wave Changes. A U-wave that is positive at rest and becomes inverted during exercise is another rare finding that is suggestive of coronary artery disease when noted in the absence of left ventricular hypertrophy.

T-Wave Changes. The appearance of an isolated T-wave inversion during or after exercise represents a non-diagnostic finding and is not necessarily indicative of coronary artery disease. On the other hand, patients who normalize a previously inverted T-wave, synchronous with the onset of anginal chest pain is suggestive of coronary artery disease.

S-4 Gallop. The presence of an S-4 gallop heard during auscultation, during or after exercise, has been the subject of considerable controversy in regards to its clinical significance. McHenry,[8] *et al,* contend that in their experience, patients who develop chest pain during exercise and a clearly audible S-4 gallop in the upright position are very apt to have myocardial ischemia, if there is no pre-existing hypertension or congenital heart disease.

Post-Ectopic T-wave Changes. One phenomena that is occasionally overlooked when interpreting the stress test is that of the "post-ectopic" T-wave changes. Post-ectopic T-wave changes are morphological changes in the T-wave of the sinus beat that follows an ectopic beat, usually an interpolated premature ventricular contraction. Surawicz[14] as-

Table IX
PREDICTABILITY OF THE NEAR-MAXIMAL EXERCISE STRESS TEST

Study	Number of Patients	Angiographic Criteria	Single Vessel Disease	Two Vessel Disease	Three Vessel Disease
Martin[19]	63	50% stenosis	35%	67%	86%
McHenry[22]	112	75% stenosis	60%	91%	100%
Kaplin[23]	137	50% stenosis	46%	73%	87%
AVERAGE			47%	77%	91%

*A significant lesion in the left main coronary artery would have about the same predictability as that of three-vessel disease.

Table X
PREDICTED HEART RATES/MINUTE ACCORDING TO AGE AND PHYSICAL FITNESS

Age	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
Unconditioned															
100%	197	195	193	191	189	187	184	182	180	178	176	174	172	170	168
90%	177	175	173	172	170	168	166	164	162	160	158	157	155	153	151
85%	167	165	164	162	160	154	156	155	153	151	149	148	146	144	143
75%	148	146	144	143	142	140	138	137	135	134	132	131	129	128	126
60%	118	117	115	114	113	112	110	109	108	107	106	104	103	102	101
Conditioned															
100%	190	188	186	184	182	180	177	175	173	171	169	167	165	163	161
90%	171	169	167	166	164	162	159	158	156	154	152	150	149	147	145
85%	161	160	158	156	155	153	150	149	147	145	144	142	140	138	137
75%	143	141	140	138	137	135	133	131	130	128	127	125	124	122	121
60%	114	113	112	110	109	108	106	105	104	103	101	100	99	98	97

serts that the post-ectopic T-wave changes are suggestive of coronary artery disease, but points out that on rare occasions they can be seen in "normal" individuals.

Double Product. In a recent study by Berman,[15] *et al,* at the Peter Bent Brigham Hospital it was found that patients with coronary artery disease nearly always had a double product (the maximum heart rate attained during exercise multiplied by the maximum systolic blood pressure attained during exercise) of less than 23,000. It was also noted that 80% of the patients with one to two mm of ST segment depression plus a double product of less than 23,000, or an exercise duration of less than six minutes, or early ST segment changes had multivessel disease.

R-Wave Amplitude. In 1956, Brody[16] postulated that the R-wave amplitude should decrease with exercise because of a reduction in left ventricular volume secondary to an enhanced contractility. In a study by Bonaris,[17] *et al,* at the Long Beach Memorial Hospital in California, it was found that the R-wave amplitude in a single lead (usually V5) decreased in 90 percent of the normal subjects tested. On the other hand, 60 percent of the patients with coronary artery disease (confirmed by coronary angiography) had a significant increase in the R-wave amplitude. It was also noted in this

Table XI
DOUBLE PRODUCTS

Maximum Heart Rate in Beats per Minute

Maximum Systolic Blood Pressure (mm Hg)	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210
120	16200	16800	17400	18000	18600	19200	19800	20400	21000	21600	22200	22800	23400	24000	24600	25200
125	16875	17500	18125	18750	19375	20000	20625	21250	21875	22500	23125	23750	24375	25000	25625	26250
130	17550	18200	18850	19500	20150	20800	21450	22100	22750	23400	24050	24700	25350	26000	26650	27300
135	18225	18900	19575	20250	20950	21600	22275	22950	23625	24300	24975	25650	26325	27000	27675	28350
140	18900	19600	20300	21000	21700	22400	23100	23800	24500	25200	25900	26600	27300	28000	28700	29400
145	19575	20300	21025	21750	22475	23200	23925	24650	25375	26100	26825	27550	28275	29000	29725	30450
150	20250	21000	21750	22500	23250	24000	24750	25500	26250	27000	27750	28500	29250	30000	30750	31500
155	20925	21700	22475	23250	24025	24800	25575	26350	27125	27900	28625	29450	30225	31000	31775	32550
160	21600	22400	23200	24000	24800	25600	26400	27200	28000	28800	29600	30400	31200	32000	32800	33500
165	22275	23100	23925	24750	25575	26400	27225	28050	28875	29700	30525	31350	32125	33000	33825	34650
170	22950	23800	24650	25500	26350	27200	28000	28900	29750	30600	31450	32300	33150	34000	34850	35700
175	23625	24500	25375	26250	27125	28000	28875	29750	30625	31500	32375	33250	34125	35000	35875	36750
180	24300	25200	26100	27000	27900	28800	29700	30600	31500	32400	33300	34200	35100	36000	36900	37800
185	24975	25900	26825	27750	28675	29600	30575	31450	32375	33300	34225	35150	36075	37000	37925	38850
190	25650	26600	27550	28500	29450	30400	31350	32300	33250	34200	35150	36100	37050	38000	38950	39900
195	26325	27300	28275	29250	30225	31200	32175	33150	34125	35100	36075	37050	38250	39000	39975	40950
200	27000	28000	29000	30000	31000	32000	33000	34000	35000	36000	37000	38000	39000	40000	41000	42000
205	27675	28700	29725	30750	31775	32800	33825	34850	35875	36900	37925	38950	39975	41000	42025	43050
210	28350	29400	30450	31500	32550	33600	34650	35700	36750	37800	38850	39900	40950	42000	43050	44100
215	29025	30100	31175	32250	33325	34400	35475	36550	37625	38700	39775	40850	41925	43000	44075	45150
220	29700	30800	31900	33000	34100	35200	36300	37400	38500	39600	40700	41800	42900	44000	45100	46200

study that when both the 1.0 mm ST segment depression criterion and the R-wave amplitude criterion were taken into account, the sensitivity was increased to 99 percent. Cohn[18] asserts that the R-wave amplitude criterion may be helpful in interpreting the exercise stress test in patients who are taking digitalis or some other drug that has pronounced effects on the ST segment.

SENSITIVITY AND SPECIFICITY

The sensitivity and specificity are relatively high, particularly when a near-maximal examination is utilized and when the examiner is well-informed as to what factors can result in false-positive and false-negative results. The sensitivity of the exercise stress test is also dependent upon the degree of ischemic disease present, as is demonstrated in Table IX.

CONCLUSION

A positive exercise stress test can be of immense value in persuading the patient not to embark on any strenuous exercise program, and to submit to further testing, eg Thallium-201 scanning or coronary angiography. A normal exercise stress test, on the other hand, might not be wholly reassuring, since there is a small percentage of individuals with significant coronary artery disease who have normal exercise stress test results. This small percentage of individuals, to close on a positive note, generally can be identified by utilizing a near-maximal exercise protocol with serial examinations, or a Thallium-201 scan immediately following maximal exercise.

REFERENCES

1. Feil, H., and Siegel, M.: Electrocardiographic changes during attacks of angina pectoris, *Am. J. Med. Sci.*, **175**:255, 1928.
2. Masters, A. M. and Jaffe, H. L.: The electrocardiographic changes after exercise in angina pectoris, *J. Mt. Sinai Hosp.* **7**:629, 1941.
3. Bruce, R. A.: Evaluation of functional capacity and exercise tolerance of cardiac patients, *Mod. Concepts Cardiovas. Dis.* **25**:321, 1956.
4. Milnor, Wm. R.: The Cardiovascular Control System, Ch 39, V. B. Mountcastle-Ed., Medical Physiology, The C. V. Mosby Co., St. Louis, Mo., 1974.
5. Robinson, S.: Physiology of Muscular Exercise, Ch 55, V. B. Mountcastle-Ed., Medical Physiology, The C. V. Mosby Co., St. Louis, Mo., 1974.
6. Ellestad, M., Allen, W., Wan, C. K. M., et al.: Maximal treadmill stress testing for cardiovascular evaluation. *Circ.* **39**:517, 1969.
7. Kattus, A. A., Alvaro, A., MacAlpin, R. N.: Treadmill exercise tests for capacity and adaptation in angina pectoris. *J. Occup. Med.* **10**:627, 1968.
8. McHenry, P.L., and Morris, S. R.: Exercise Electrocardiography-Current State of the Art, Schlant, R. C., and Hurst, J. W.-Eds., Advances in electrocardiography, Vol. II, Grune and Stratton-Publishers, New York, 1976.
9. Patterson, J. A., Naughton, J., Pietras, R. J., et al.: Treadmill exercise in assessment of functional capacity of patients with cardiac disease. *Am. J. Cardiol.* **30**:757, 1972.
10. Sheffield, L. T.: Graded Exercise Test (GXT) for ischemic heart disease. A submaximal test to a target heart rate in exercise testing and training of apparently healthy individuals: A Handbook for Physicians, Am. Heart Assoc. The Committee on Exercise, 1972.
11. Robb, G. P. and Marks, H.: Post-exercise electrocardiogram in atherioscclerotic heart disease, *JAMA*, **200**:100, 1967.
12. Bruce, R. A., and Blackman, J. R.: Exercise testing in adult normal subjects and cardiac patients. *Peds.* **32**:Suppl. 742, 1963.
13. Harrison, T. R., and Reeves, T. J.: Principles and Problems of Ischemic Heart Disease, Yearbook Medical Publications, Chicago, 1968.
14. Surawicz, B.: The Pathogenesis and clinical significance of primary T-wave abnormalities. Schlant, R. C., and Hurst, J. W.-Eds., Advances in electrocardiography, Vol. I, Grune and Stratton-Publishers, New York, 1972.
15. Berman, J. L., Wynne, J., Cohn, P. F.: The rate-pressure product in exercise stress testing, *Circ.* **58**:505, 1978.
16. Brody, D. A.: A theoretical analysis of intracavitary blood mass influence on the heart-lead relationships. *Circ. Res.* **4**:731, 1956.
17. Bonoris, P. E., Greenberg, P. S., Christison, G. W., et al.: R-wave amplitude in coronary artery disease. *Circ.* **57**:904, 1978.
18. Cohn, P. F.: New aspects of exercise testing in coronary disease diagnosis. *Prim. Cardiol.* Nov., 1980.
19. Martin, C. M., and McConahy, D. R.: Maximal treadmill exercise electrocardiography: correlation with coronary arteriography and cardiac hemodynamics. *Circ.* **46**:946, 1972.
20. Mason, R. E., Libar, I., Biern, R. O., et al.: Correlation of graded exercise electrocardiographic response with clinical and coronary cinearteriographic findings, H. Blackbun-Ed., Measurements in Exercise electrocardiography, C. C. Thomas-Publishers, Springfield, 1969.
21. Ryan, T. J., Weiner, D. A., and McCube, C. H.: Value of the exercise ECG for diagnosis of coronary artery disease. *J. Cardiovas. Med.*, Jan., 1980.
22. McHenry, P. L., Morris, S. N., and Jordan, J. W.: Stress testing coronary heart disease, *Heart and Lung* 3:83, 1974.
23. Kaplin, M. A., Harris, C. N., Aronow, W. S., et al.: Durability of the submaximal treadmill stress test to predict the location of coronary disease. *Circ.* **47**:250, 1973.
24. Amsterdam, E., and Mason, D.: Preoperative and post-operative stress evaluation in the assessment of coronary artery bypass graft surgery. *Cleve. Clin. Q.* **45**:122, 1978.

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The Distribution of Fasting Plasma Glucose in a Rural Population: The Oklahoma Lipid Research Clinic Program

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Age, sex, body mass, use of selected medications and change in weight were related to fasting plasma glucose levels in this rural Oklahoma population.

Introduction

There are a number of methods employed to define, classify and report cases of diabetes. The National Diabetes Group has recently recommended the use of fasting plasma glucose (FPG) values.[1] This measurement is considered to be well standardized and is easily and precisely determined.[2, 3] There are little data currently available on the distribution of FPG levels in large free-living populations. Studies have described the impact of factors such as oral contraceptive use on glucose tolerance,[4-7] but generally have not assessed their association with FPG levels.

The present study provides descriptive information for Oklahomans on FPG levels and estimates the prevalence of hyperglycemia. In addition, the relationships of body mass, age, sex and use of selected medications to FPG levels are also examined. This study is the fourth in a series of publications reporting results from the Oklahoma Lipid Research Clinic (LRC) Prevalence Study.

METHODS

Study Population

The Oklahoma LRC is one of ten North American Clinics established by the National Heart, Lung and Blood Institute in 1971-2, to investigate the relationship of lipids and lipoproteins to coronary heart disease. The methodology of the Oklahoma LRC Prevalence Studies has been described previously.[8, 9] Briefly, a multistage random sample of approximately 10,000 residents of four counties (Canadian, Lincoln, McClain and Pottawatomie) was drawn, and these individuals were invited to an initial screening examination (Visit 1). The overall participation rate for Visit 1 was 76 percent. A 15 percent random sample of Visit 1 participants was invited to a

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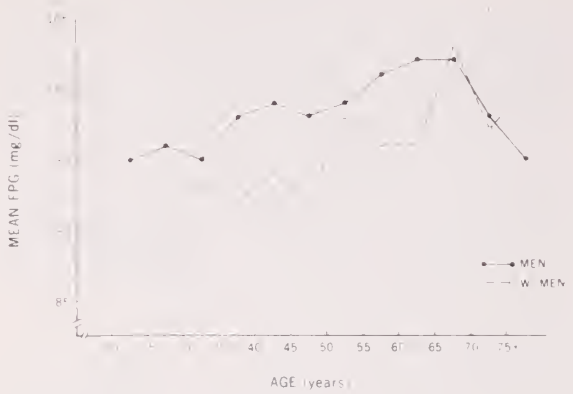


Fig 1. Mean fasting plasma glucose (FPG) levels (mg/dl) by age in white men and women.

second, more extensive examination (Visit 2). Visit 1 subjects with elevated lipids and those who reported taking lipid lowering drugs were also invited to participate in the Visit 2 screening.

In addition to lipid and lipoprotein determinations, the Visit 2 examination included resting and stress electrocardiography; a detailed questionnaire about cardiovascular symptoms and morbidity, personal habits and medication consumption within the two weeks prior to interview; a 24-hour dietary recall; anthropometry and fasting determinations of eight non-lipid clinical chemistries including plasma glucose. Subjects were not asked specifically whether they had been diagnosed as hyperglycemic or diabetic.

The random sample Visit 2 participants included 382 white men and 454 white women who were 20 years of age or older. In the present study, analyses of FPG values from the Visit 2 random sample were restricted to 319 white men and 377 white women who met the following criteria: fasting at least 12 hours but less than 16 hours, not taking antidiabetic medications or a diabetic diet, Body Mass Index (BMI=weight (kgs)/height $(m)^2$) less than 50.0 and FPG values greater than or equal to 30 mg/dl but less than 300 mg/dl. A total of 51 men and 63 women who did not meet the fasting, BMI or FPG criteria were excluded from analyses. These individuals were slightly older than the study population, but did not differ significantly in either BMI or FPG values.

FPG values for those reporting use of antidiabetic drugs and/or a diabetic diet (12 men and 14 women) are reported separately and are not included in the majority of the tables or figures.

Fasting Plasma Glucose Determinations

Venous blood samples were centrifuged, separated into their plasma and serum components, frozen and mailed to a central commercial laboratory serving the LRC program.

TABLE 1

FASTING PLASMA GLUCOSE DISTRIBUTION (mg/dl) IN WHITE MEN AND WOMEN BY AGE, EXCLUDING USERS OF ANTIDIABETIC DRUGS OR DIABETIC DIET

	MEN								WOMEN							
				Percentiles								Percentiles				
AGE (YEARS)	N	MEAN	S.D.	5	10	50	90	95	N	MEAN	S.D.	5	10	50	90	95
20-24	25	95	10.5	77	81	96	112	116	28	86	6.9	76	78	86	100	101
25-29	28	96	7.8	86	87	94	109	114	36	88	7.3	78	79	88	100	101
30-34	38	95	5.4	87	87	94	103	106	39	93	7.7	83	84	92	104	109
35-39	26	98	7.8	84	87	96	110	112	36	92	8.2	81	83	91	106	109
40-44	39	99	12.0	82	87	96	111	119	40	94	13.2	80	83	93	108	119
45-49	29	98	8.2	86	87	97	110	115	29	92	7.3	80	84	91	104	108
50-54	25	99	7.2	86	89	99	108	115	27	98	12.3	80	83	95	115	131
55-59	41	101	11.7	84	89	99	117	122	43	96	9.4	80	83	96	110	114
60-64	22	102	11.3	86	88	102	123	127	28	96	9.1	84	86	95	112	116
65-69	28	102	8.2	86	89	102	112	114	30	103	16.8	86	89	100	128	152
70-74	12	98	10.3	83	84	98	116	117	24	97	11.6	84	86	96	111	131
75+	6	95	10.4	78	78	98	106	106	17	100	7.2	85	90	100	109	110
ALL AGES	319	98	9.6	85	87	97	111	113	377	94	11.0	80	83	93	107	111

Plasma glucose determinations were done by the hexokinase method using the Technicon Autoanalyzer.[10]

Statistical Methods

A multiple regression model was used to examine the relationship of an independent variable to FPG levels while controlling for the effects of other independent variables. The interactive effects of selected independent variables on FPG levels were also investigated using a general linear model from the Statistical Analysis System (SAS).

In the Visit 2 interview, subjects were asked how much they weighed at age 18 years. Thus, it was possible to approximate each individual's BMI at age 18 using the following formula: BMI_{18}=weight at age 18 (kg)/Height $(m)^2$ at Visit 2. A two-by-three cross classification model was then used to compare age-adjusted mean FPG levels by change in BMI category based on weight at 18 years of age to BMI category based on weight at Visit 2.

RESULTS

Age and Sex Differences

Mean FPG values tended to be higher at older ages in each sex (Figure 1), although the slope of the line was steeper for women. However, in the oldest men FPG values were slightly lower than in the next younger cohort, which may be due in part to the small number of observations in the oldest age group.

Men had higher mean FPG levels than women at nearly every age with differences ranging from one to nine mg/dl (Table 1). Sex differences in age-specific mean values of FPG were largest prior to age 50. The overall mean FPG level in men (98 mg/dl) was significantly higher ($p \leq .0001$) than that in women (94 mg/dl) after adjusting for differences between the sexes in age and body mass.

The distribution of FPG in men and women is slightly skewed toward higher values. However, the overall mean, mode and median (50th percentile) FPG values for each sex are fairly similar, suggesting that the distributions of FPG in both sexes are approximately normal.

Frequency of Hyperglycemia

Using the cut-points for FPG advocated by the National Diabetes Group, the vast majority of men (95%) and women (94%) in our population had FPG levels considered to be within the normal range, ie 80-114 mg/dl. Women were more likely to have FPG levels less than 80 mg/dl compared with men (3.2% vs 0.9%), while the frequency of FPG levels exceeding 114 mg/dl was greater in men (4.4%) than in women (2.9%). In both sexes, the highest percentage of subjects with FPG levels in the range 115-139 mg/dl were aged 60-69. Only two men (0.6%) and two women (0.5%) had FPG levels exceeding 139 mg/dl.

Body Mass Index

Age-specific and overall mean FPG levels in both men and women tended to be higher in those with greater body mass (Table 2). A higher FPG level at older ages was also observed within each of the three categories of BMI for both men and women. This suggests that FPG levels are related to both age and body mass. The increment in FPG with each unit increase in BMI (eg. 23.1 to 24.1), after adjusting for age differences in BMI, was 0.75 mg/dl ($p \leq .0001$) in women and 0.72 mg/dl in men ($p \leq .0001$). The increment in FPG for every ten years of age was 2 mg/dl ($p \leq .0001$) in women and 1.2 mg/dl ($p = .0004$) in men.

These data were further examined in order to determine whether a change in body mass from 18 years of age to that at Visit 2 had an effect on FPG levels (Table 3). Those men and women who lost weight (ie, were overweight at age 18 but had normal body mass at Visit 2) had lower FPG levels than those who remained

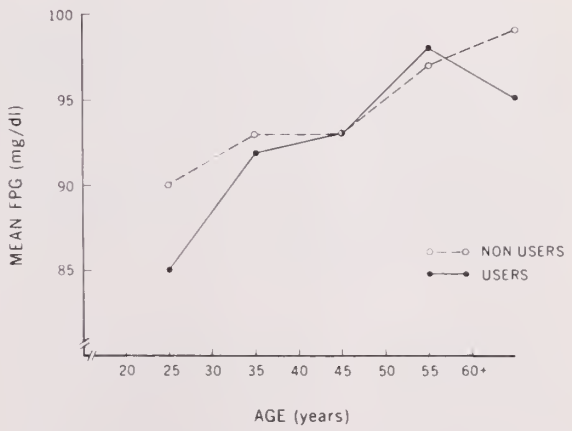


Fig 2. Mean fasting plasma glucose (FPG) levels (mg/dl) by age and use of exogenous sex hormones in white women.

TABLE 2

MEAN FASTING PLASMA GLUCOSE (mg/dl) ± 1 S.D. IN WHITE MEN AND WOMEN BY AGE AND BODY MASS*

	MEN			WOMEN		
AGE	NORMAL	FAT	OBESE	NORMAL	FAT	OBESE
20-29	94 ± 10 (28)	98 ± 5 (8)	96 ± 10 (17)	85 ± 5 (33)	87 ± 8 (13)	93 ± 7 (18)
30-39	94 ± 7 (16)	94 ± 5 (20)	99 ± 7 (28)	90 ± 8 (37)	93 ± 8 (11)	95 ± 7 (27)
40-49	93 ± 7 (23)	97 ± 7 (18)	103 ± 13 (27)	90 ± 6 (26)	92 ± 8 (11)	96 ± 14 (32)
50-59	96 ± 8 (30)	107 ± 15 (15)	101 ± 7 (21)	91 ± 7 (17)	98 ± 13 (19)	99 ± 10 (34)
60-69	99 ± 9 (16)	103 ± 10 (10)	104 ± 9 (24)	91 ± 7 (12)	97 ± 7 (10)	104 ± 16 (36)
70+	92 ± 9 (9)	102 ± 7 (5)	104 ± 9 (4)	95 ± 7 (17)	96 ± 9 (6)	102 ± 11 (18)
ALL AGES	95 ± 8 (122)	99 ± 10 (76)	101 ± 10 (121)	90 ± 7 (142)	94 ± 10 (70)	99 ± 13 (165)

*Normal (<110% Ideal): BMI <24.64 (men): BMI <22.99 (women)
Fat (110-119% Ideal): 24.64 ≤ BMI <(men); 22.99 ≤BMI <25.08 (women)
Obese (≥120% Ideal): BMI ≥26.88 (men); BMI ≥25.08 (women)
BMI categories defined according to West[26]
( ) = Number of observations

TABLE 3

AGE-ADJUSTED MEAN FASTING PLASMA GLUCOSE (mg/dl) IN WHITE MEN AND WOMEN BY CHANGE IN BODY MASS* FROM AGE 18 YEARS TO VISIT 2

	MEN				WOMEN			
	BODY MASS AT VISIT 2††				BODY MASS AT VISIT 2††			
BODY MASS AT AGE 18†	NORMAL	FAT	OBESE	TOTAL	NORMAL	FAT	OBESE	TOTAL
NORMAL	95 (115)	99 (61)	102 (73)	98 (249)	91 (127)	94 (64)	98 (110)	94 (301)
OVERWEIGHT (FAT & OBESE)	97 (7)	103 (15)	99 (48)	100 (70)	87 (15)	91 (6)	98 (55)	92 (76)
TOTAL	96 (122)	101 (76)	101 (121)	98 (319)	89 (142)	93 (70)	98 (165)	94 (377)

*Normal (<110% Ideal): BMI <24.64 (men); BMI <22.99 (women)
Fat (110-119% Ideal): 24.64 ≤ BMI <26.88 (men); 22.99 ≤ 25.08 (women)
Obese (≥120% Ideal): BMI ≥26.88 (men); BMI ≥25.08 (women)

†Body mass categories based on weight at 18 years of age.
††Body mass categories based on weight at Visit 2

( ) Number of observations

overweight. Women who were overweight at age 18 but who had normal body mass at Visit 2 had the lowest mean FPG value. Current weight appeared to be more closely related to current FPG levels than weight at age 18 years.

Sex Hormone Use

The association of FPG levels in women and reported use of exogenous sex hormones was also investigated (Table 4 and Figure 2). Sex hormone use in women less than 40 years of

TABLE 4

FASTING PLASMA GLUCOSE DISTRIBUTION (mg/dl) IN WHITE WOMEN BY SEX HORMONE USE AND AGE, EXCLUDING USERS OF ANTIDIABETIC DRUGS OR DIABETIC DIET

AGE (YEARS)	SEX HORMONES	N	MEAN (mg/dl)	S.D.	PERCENTILES (mg/dl) 5	50	95
	USER	27	85	5.4	76	85	99
20-29	NON-USER	37	90	7.5	78	89	102
	USER	13	92	5.1	85	92	105
30-39	NON-USER	62	93	8.4	81	91	109
	USER	13	93	5.2	85	94	99
40-49	NON-USER	56	93	12.1	80	91	111
	USER	12	98	7.2	89	97	114
50-59	NON-USER	58	97	11.2	80	96	116
	USER	6	95	7.0	89	94	103
60+	NON-USER	93	99	12.7	85	98	129
	USER	71	90	7.5	79	89	104
ALL AGES	NON-USER	306	95	11.4	81	94	112

age is assumed primarily to reflect oral contraceptive consumption. After age 49, however, sex hormone use is most likely to be that of replacement estrogens. Among women aged 20-39 or over 59 years, users of sex hormones had lower mean FPG levels than non-users. After adjusting for differences in BMI and age between hormone users and non-users, hormone users aged 20-39 had a mean FPG level almost 2.5 mg/dl lower than non-users in the same age range ($p=.08$). The adjusted mean FPG level in hormone users above age 49 years was 1.9 mg/dl lower than non-users ($p=.49$).

The distribution of sex hormone users and non-users by age and FPG categories (ie <80 mg/dl, 80-114 mg/dl, 115-139 mg/dl, >139 mg/dl) was also investigated. Although the number of observations was small for all but the 80-114 mg/dl category, FPG levels less than 80 mg/dl were twice as common in hormone users than in non-users (5.6% vs 2.6%). FPG levels greater than 114 mg/dl were found only in 11 of the 207 non-users of sex hormones aged 40 years or older.

Use of Antihypertensive Medication and/or Diuretics

In our population 27 men and 77 women were taking antihypertensive medication and/or diuretics. In men, users of antihypertensives or diuretics had a significantly ($p\leq.05$) higher mean FPG level than non-users (103 mg/dl vs. 98 mg/dl). However, when the differences in age and BMI between users and non-users were statistically controlled, users had only slightly higher mean FPG levels (100 mg/dl) than non-users (98 mg/dl) and the difference was no longer significant ($p=.28$). Women who used antihypertensives or diuretics had a significantly higher mean FPG value (101 mg/dl vs 93 mg/dl) than non-users ($p\leq.05$). After statistically correcting for the confounding effects of age and body mass, female users of antihypertensives or diuretics still had higher mean FPG levels (97 mg/dl vs 94 mg/dl) than non-users ($p\leq.01$), although the magnitude of the difference was reduced.

Use of Antidiabetic Medication and/or Diabetic Diet

Twelve men (3.6%) and 14 women (3.6%) reported use of antidiabetic drugs and/or a diabetic diet within the two weeks prior to the Visit 2 screening. The majority (ten men, nine women) of those using antidiabetic drugs were on oral agents. The mean FPG level in men on antidiabetic drugs (135 mg/dl) was significantly higher ($p\leq.05$) than in non-users (98 mg/dl). In women, users of antidiabetic drugs and/or diabetic diet also had a significantly higher ($p\leq.05$) mean FPG level (129 mg/dl) than non-users (94 mg/dl). The number of insulin users (two men, three women) was too small for meaningful comparisons.

Estimated Prevalence of Diabetes

The overall prevalence of known and suspected "diabetes" in this population can be approximated by combining the number of individuals reporting use of antidiabetic medications (12 men and 14 women) and those with FPG levels above 139 mg/dl (two men and two women). Thus 14 men (4.2%) and 16 women (4.1%) could be considered "diabetic" according to these criteria, although it is acknowledged that one fasting determination is not diagnostic. Excluding those individuals on antidiabetic medications and/or diabetic diet, the prevalence of hyperglycemia (FPG > 139 mg/dl) in this population is quite low (0.6% in men and 0.5% in women).

DISCUSSION

Mean FPG levels were higher in each succeeding age cohort until the sixth decade in both sexes. For men, the average change in FPG from the mean value for ages 20-24 to that for ages 60-64 was a modest 7 mg/dl. This corresponds to a difference of 1.5 mg/dl per decade. In women, the difference was slightly higher (10 mg/dl), corresponding to a change of 2.2 mg/dl per decade.

After age 69, mean FPG levels tend to be lower in men, whereas no consistent pattern is seen in women. Since these data are drawn from a cross-sectional survey, we only have FPG values on individuals who have survived long enough to be measured. Thus the lower values observed in mean FPG levels in men after age 69 may reflect a survivorship effect if, in fact, FPG levels are related to mortality. That is, men with higher mean FPG levels may have died before age 70 while those with lower mean FPG survived into old age. Assuming that FPG is related to mortality, the absence of a consistent age trend in women after age 69 does not negate differential survivorship, but is consistent with the possibility that FPG may be a stronger predictor of mortality for men than women.

The slight overall increase in mean FPG levels by age in this population is also consistent with findings reported by others.[11, 12] Barrett-Connor[11] reported consistently lower mean FPG levels in men after age 60, and an absence of a consistent relationship between FPG and age in women after the sixth decade. The similarity in age trends seen for both sexes in these two studies is supportive of and consistent with either a real decline in FPG levels in men that does not occur in women, or the survivorship hypothesis.

The increase in FPG values at older ages observed in the present study is relatively small when compared with reported increases in post-challenge glucose levels (6 to 18 mg/dl per decade).[13, 14] Indeed, when post-challenge glucose levels are used to ascertain the prevalence of diabetes in older individuals, as many as 50% could be considered diabetic.[14] This high estimated prevalence of diabetes in older persons is not confirmed by the development of clinical disease in the majority of cases.[15] Since FPG does not change with age as much as post-challenge glucose measures, FPG may be a more specific measure (fewer false positives) of true glucose impairment, especially in older persons.

In this population, men had higher levels (mean and individual percentiles) of FPG than women at nearly every age, with differences between the sexes tending to be larger at the younger ages. Other studies have also observed higher FPG levels in men than in women,[11, 16, 17] in contrast to the reported higher prevalence of diabetes in women than in men.[16, 18] Furthermore, women tend to have higher post-challenge glucose levels than men.[19] There is a suggestion, however, that the sex ratio in maturity onset diabetes may be changing from female to male predominance.[18, 20] The higher levels of FPG in men in this cross-sectional study are perhaps reflective of that change.

One reason that men may have higher mean FPG values than women is that men have a larger body mass. It is widely accepted that body mass is highly correlated with glucose tolerance levels, and several studies show a direct positive relationship between body mass and FPG.[4,11,12,19] In this study we also found a direct, positive association between BMI and FPG in both sexes and in all ages. However, in each category of BMI and for most age groups, men still had higher FPG values than women. As a greater proportion of women than men were obese in this population, there appears to be a real sex difference in FPG levels that is not accounted for by body mass alone.

Examination of the impact of weight change (from age 18 to age at Visit 2) on FPG levels, although yielding several interesting results, should be interpreted with caution as there

may be methodologic biases inherent in the variable "BMI at age 18". The length of time from age 18 to Visit 2 varied depending on the age of the participant at Visit 2. In addition, BMI at age 18 was calculated using height measured at Visit 2. While this may not have induced much bias in younger individuals, it may lead to overestimation of BMI in older individuals who may have lost height since age 18. Furthermore, weight at age 18 may not represent an individual's maximum weight, and thus may underestimate the impact of weight change. There is no information on the length of time an obese person had been overweight.

Given these cautions, the results suggest that in both men and women current obesity is more strongly related to increased FPG levels regardless of body mass at age 18. There is also a consistent linear increase in mean FPG levels for individuals considered to be "normal" at age 18 and fat (110-119% of ideal body mass) or obese (120% or more of ideal) at Visit 2. That is, those men and women who were categorized as obese had higher FPG levels than fat individuals. Men who were overweight at age 18, and who had lost weight had lower mean FPG levels than those who remained overweight. Women who were overweight at age 18, but were "normal" at Visit 2 had mean FPG levels even lower than women who had maintained a normal weight from age 18 to Visit 2. This finding suggests that weight loss, especially for women, may have an important impact on lowering FPG levels. Similar results concerning the influence of weight loss on post-challenge glucose levels have been previously reported.[21]

The findings of this study also confirm previous reports that exogenous sex hormone use in women is associated with lower mean FPG levels.[11, 12] This observation was most pronounced at younger ages and after age 50 in this population, and persisted after statistically correcting for the confounding effects of age and body mass. Previous studies have shown that oral contraceptive users have lower or unchanged fasting glucose levels in conjunction with significant abnormalities in glucose tolerance tests.[4-6] Increased insulin,[5] growth hormone[6] and cortisol levels[7] have been reported in oral contraceptive users but whether these alterations completely explain the differences in fasting and post-challenge glucose measurements is unclear. There may be a selection effect in the present study, in terms of hormone use or non-use, as women with high FPG levels may not be prescribed these medications as often as women with lower FPG levels.

The use of antihypertensive agents and/or diuretics was associated with increased FPG levels in men and women. A statistically significant positive association in women and a consistent positive trend in men were observed after adjusting for differences in age and body mass between users and non-users of these agents. Although it is well known that these medications, especially diuretics, increase post-challenge glucose levels,[22, 23] their relationship to FPG levels has not been well described. Mean FPG values in men taking only diuretics were not significantly different from those in men not using diuretics. However, women on diuretics had significantly higher mean FPG than non-users after adjusting for age and body mass.

A higher prevalence rate of diabetes in men than women has been reported in various studies.[11, 19, 24, 25] By combining those subjects with FPG values greater than 139 mg/dl and those taking antidiabetic medication and/or a diabetic diet, the prevalence rate of diabetes was no higher in men (4.2%) than in women (4.1%) in this population. However, a similar population-based study[11] using FPG measures reported diabetes to be more common in men (6.0%) than in women (3.2%). It should be noted that data in the present study are based on a single determination of FPG drawn from a cross-sectional population survey, and thus cannot address differences between the sexes in the incidence of diabetes.

The prevalence of frank hyperglycemia (FPG $>$ 139 mg/dl) or undiagnosed diabetes was very low (0.6%) in spite of the fact that this population was relatively old and had a high prevalence of obesity. If participants with FPG between 115-139 mg/dl are included, then a total of 4.4% of men and 2.9% of women could be categorized as hyperglycemic. Of greater note, however, is the converse of that finding, that is 94.7% of men and 93.9% of women had FPG levels within a "normal" range (80-114 mg/dl).

ACKNOWLEDGMENTS

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REFERENCES

1. National Diabetes Data Group. Classification and diagnosis of diabetes mellitus and other categories of glucose intolerance. *Diabetes* **28**:1039-1057, 1979.
2. Rushforth, N. B., Miller, M., Bennett, P.H. Fasting and two-hour post load glucose levels for the diagnosis of diabetes. *Diabetologia* **16**:373-379, 1979.
3. West, K. M. Standardization of definition, classification and reporting in diabetes related epidemiologic studies. *Diabetes Care* **2**:65-76, 1979.
4. Wingerd, J., Duffy, T. J. Oral contraceptive use and other factors in the standard glucose tolerance test. *Diabetes* **26**:1024-33, 1977.
5. Pribicevic, V., Skrabalo, Z., Lipovac, V., et al. Oral contraception, mechanical contraception and carbohydrate and lipid metabolism: A two-year study. *Int. J. Fertil.* **24**:114-119, 1979.
6. Spellacy, W. N. The effect of ovarian steroids on glucose, insulin and growth hormone. In: Metabolic Effects of Gonadal Hormones and Contraceptive Steroids. Salhanick, H. A., Kipnis, D. M. and Van de Wiele, R. L.(eds.). Plenum Press, p. 126-143, 1969.
7. Wynn, V., Doar, J. W. H. Longitudinal studies of the effects of oral contraceptive therapy on plasma glucose, non-esterified fatty acid, insulin and blood pyruvate levels during oral and intravenous glucose tolerance tests. In: Metabolic Effects of Gonadal Hormones and Contraceptive Steroids. Salhanick, H. A., Kipnis, D. M. and Van de Wiele, R. L. (eds.) Plenum Press, p. 157-177, 1969.
8. Brockway, M. F., Bradford, R. H., Anderson, P. S., et al. The Oklahoma Lipid Research Clinic: Research in cardiovascular disease through the Lipid Research Clinic Program. *J. Okla. State Med. Assoc.* **72**:323-326, 1979.
9. Brockway, M. F., Hill, J., Hyder, P. B., et al. Plasma lipid levels among rural Oklahomans: The Oklahoma Lipid Research Clinic. *J. Okla. State Med. Assoc* **72**:351-356, 1979.
10. The Bioscience Handbook — Specialized Diagnostic Laboratory Tests. 11th edition. Bioscience Laboratories, Van Nuys, California, 1975.
11. Barrett-Connor, E. The prevalence of diabetes mellitus in an adult community as determined by history or fasting hyperglycemia. *Am. J Epidemiol.* **111**:705-712, 1980.
12. Barrett-Connor, E. Factors associated with the distribution of fasting plasma glucose in an adult community. *Am. J. Epidemiol.* **112**:518-523, 1980.
13. Pozefsky, T., Colker, J. L., Langs, H. M., et al. The cortisone-glucose tolerance test. The influence of age on performance. *Ann. Intern. Med.* **63**:988-997, 1965.
14. Andres, R. Aging and diabetes. *Med. Clin. North Am.* **55**:835-846, 1971.
15. Crombie, D. L., Pike, L. A., Pinsent, R. J. F. H., et al. Five year follow-up report on the Birmingham diabetes survey of 1962. *Br. Med. J.* **3**:301-305, 1970.
16. Sayetta, R. B., Murphy, R. S. Summary of current diabetes-related data from the National Center for Health Statistics. *Diabetes Care* **2**:105-119, 1979.
17. Stern, M. P., Gaskill, S. P., Allen, C. R. et al. Cardiovascular risk factors in Mexican Americans in Laredo, Texas. I. Prevalence of overweight and diabetes and distributions of serum lipids. *Am. J. Epidemiol.* **113**:546-555, 1981.
18. West, K. M. Epidemiology of Diabetes and Its Vascular Lesions. New York: Elsevier, 1978.
19. O'Sullivan, J. B., Williams, R. F., McDonald, G. W. The prevalence of diabetes mellitus and related variables — A population study in Sudbury, Massachusetts. *J. Chron. Dis.* **20**: 535-543, 1967.
20. Nicholson, W. A. Changing sex ratios in diabetes. *Br. Med. J.* **4**:465-466, 1971.
21. O'Sullivan, J. B., Hurwitz, D. Spontaneous remissions in early diabetes mellitus. *Arch. Intern. Med.* **117**:769-774, 1966.
22. Chazan, J. A., Boshell, B. R. Etiological factors in thiazide-induced or aggravated diabetes mellitus. *Diabetes* **14**:132-136, 1965.
23. Shapiro, A. P., Benedek, J. G., Small, J. L. Effect of thiazides on carbohydrate metabolism in patients with hypertension. *N. Engl. J. Med.* **265**:1028-1033, 1961.
24. Palumbo, P. J., Elveback, L. R., Chu, C., et al. Diabetes mellitus: Incidence, prevalence, survivorship and cause of death in Rochester, Minnesota, 1945-1970. *Diabetes* **25**:566-573, 1976.
25. Kannel, W. B., McGee, D. L. Diabetes and cardiovascular risk factors: The Framingham Study. *Circulation* **59**:8-13, 1979.
26. West, K. M. Computing and expressing degree of fatness. *JAMA* **243**: 1421-1422, 1980.

Oklahoma Medical Research Foundation, 825 N.E. 13th Street, Oklahoma City, OK 73104.

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Hepatitis in Oklahoma Daycare Centers

Recent studies of outbreaks of Hepatitis A infections in daycare centers in Oklahoma and the southwestern United States show sharp contrasts between the behavior of the disease in a population group as opposed to the "typical" case described in clinical textbooks. For example, well-documented studies indicate that the disease usually is largely asymptomatic among children in daycare centers. Household members and daycare center staff are secondarily infected as a consequence of their association with an infected child. Frequently, cases among adults are the first indication of an outbreak involving children. The risk for adults is directly related to their exposure to children and to the child's age. Greatest risk is among adults who are contacts of children in the diaper period. While there are some cases among adult contacts of older children, the risk is less.

Studies also have indicated the characteristics of the daycare centers most apt to be involved in an outbreak. These include: 1) a center with a population of more than 20 children; 2) long hours of operation (over nine hours per day); and 3) the presence of a high number of diapered children.

The prevention of daycare-associated hepatitis involves increased attention to environmental sanitation and personal hygiene practices, as well as the selective use of immune serum globulin among contacts. Careful handwashing, the disinfection of surfaces where children are diapered, daily cleaning of toys, separation of food handling and feeding duties among the staff, and careful disposal of paper towels, diapers, and similar materials are key to environmental control.

In the face of an outbreak parents should be urged not to move children to another center since this action may only spread the risk of infection. □

News From The Oklahoma State Department of Health

COMMUNICABLE DISEASES IN OKLAHOMA FOR JANUARY, 1982

DISEASE	January 1982	January 1981	January 1982	Total To Date	
				1982	1981
Amebiasis	—	—	—	—	—
Aseptic Meningitis	4	2	4	4	2
Brucellosis	—	—	—	—	—
Encephalitis, Infectious	1	1	1	1	1
Gonorrhea (Use Form ODH-228)	1255	1273	1255	1255	1273
Hepatitis A	16	16	16	16	16
Hepatitis B	10	10	10	10	10
Hepatitis Unspecified	8	13	8	8	13
Malaria	—	—	—	—	—
Measles (Rubeola)	—	—	—	—	—
Meningococcal Infections	3	—	3	3	—
Pertussis	—	—	—	—	—
Rabies (Animal)	14	11	14	14	11
Rocky Mountain Spotted Fever	—	—	—	—	—
Rubella	—	—	—	—	—
Salmonellosis	12	25	12	12	25
Shigellosis	32	8	32	32	8
Syphilis (Use Form ODH-228)	16	14	16	16	14
Tetanus	—	—	—	—	—
Tuberculosis	26	29	26	26	29
Tularemia	—	—	—	—	—
Typhoid Fever	1	2	1	1	2

1982 OSMA Annual Meeting Program

If you haven't yet made plans to attend the 1982 OSMA Annual Meeting, you could find yourself left out in the cold. Space at the Skirvin Plaza Hotel in Oklahoma City is filling up fast, and tickets for social functions and sports events won't be available much longer. Judging from the response, this year's meeting promises to be one of the most well attended to date. Here's a preview of what's to come.

OFFICIAL PROGRAM

May 5-8, 1982
Skirvin Plaza Hotel

WEDNESDAY, MAY 5

12 noon	OSMA Executive Committee—Regency Room
2:00 PM	OSMA Board of Trustees—Crystal Room

THURSDAY, MAY 6

8:00 AM to 4:00 PM	Registration—Grand Ballroom Foyer
8:00 AM to 4:00 PM	Auxiliary Hospitality—Balinese Room
9:00 AM	Nurses Loan Fund Committee—Suite 908
9:30 AM	Auxiliary Long-Range Planning Committee—Suite 908
10:00 AM	Auxiliary Pre-Convention Board Meeting—Suite 908
10:00 AM	Opening Session, OSMA House of Delegates — Ballrooms A and B
11:45 AM	Auxiliary Joint Board Luncheon—Venetian Room
12:30 PM	OMPAC Luncheon—Ballroom C
1:00 PM	Auxiliary Stress Management Seminar—Continental Room Speaker: Rebecca Cohn, RN, PhD, President, Human Services Association, Norman
2:00 PM	OSMA Reference Committees Committee 1—Ballroom A Committee 2—Crystal Room Committee 3—Regency Room Committee 4—Ballroom B
7:00 PM	Western Party—Henson's Saloone & Restaurant

FRIDAY, MAY 7

7:00 AM	OSMA Past-Presidents Breakfast—Regency Room
7:30 AM to 4:00 PM	Registration — Grand Ballroom Foyer
7:30 AM to 5:00 PM	Auxiliary Hospitality—Balinese Room
7:45 AM	Auxiliary Past-Presidents Breakfast—Crystal Room
8:00 AM	**Scientific Program—"The Great Debates: Controversies in Medicine 1982" — Ballrooms A and B**
8:00 AM	"Treatment of Depression: Drug vs Electroconvulsive Therapy" Moorman P. Prosser, MD, Psychiatry and Neurology, Oklahoma City Siavash Nael, MD, Assistant Professor of Psychiatry, Department of Psychiatry and Behavioral Sciences, University of Oklahoma Health Sciences Center
9:00 AM	"Controversies in Asthma" James H. Wells, MD, Associate Professor, Department of Medicine, Immunology Section, University of Oklahoma Health Sciences Center Fred Garfinkel, MD, Director of Pulmonary Services, Hillcrest Hospital, Tulsa
10:00 AM	Coffee Break
10:30 AM	"The Use and Abuse of the CAT: Controversies in New Imaging Technologies" Patrick D. Barnes, MD, Assistant Professor of Radiological Sciences, College of Medicine, University of Oklahoma Health Sciences Center Dan C. Galloway, MD, Associate Professor of Radiological Sciences, College of Medicine, University of Oklahoma Health Sciences Center
11:30 AM	"Trauma Care: Trauma Center or Community Hospital?" Joseph M. Giordano, MD, Associate Professor of Surgery and Director of Clinical Vascular Laboratory, Department of Surgery, George Washington University, Washington, DC Wayne Tilson, MD, Director of Emergency Services, St Anthony Hospital, Oklahoma City
12:30 PM	Lunch Break
1:30 PM	"Coronary Artery Disease: Medical vs Surgical Management" Bill P. Loughridge, MD, Cardiovascular and Thoracic Surgery, Tulsa Lofty L. Basta, MD, Cardiology, Tulsa
2:30 PM	"Informed Consent: How Much Is Too Much?" Kenneth W. Whittington, MD, Family Practice, Bethany Robert C. Margo, JD, Oklahoma City
3:30 PM	Coffee Break
4:00 PM	"HMO vs Fee for Service: Who Should Pay for Care?" R. LeRoy Carpenter, MD, Internal Medicine, Pulmonary and Infectious Diseases, Oklahoma City Edwin E. Rice, MD, Orthopedic Surgery, Oklahoma City
8:30 AM to 9:00 AM	Auxiliary Credentials Check—Venetian Room
9:00 AM	Auxiliary House of Delegates and Installation of Officers—Venetian Room

9:00 AM	OSMA Women's Tennis Tournament—Summerfield Racquet Club, Oklahoma City
12:30 PM	Auxiliary Diamond Jubilee Luncheon and Style Show—Continental Room
12 NOON	OSMA Men's Tennis Tournament—Summerfield Racquet Club, Oklahoma City
1:00 PM	OSMA Men's and Women's Golf Tournament — Kickingbird Golf Course, Edmond
5:00 PM	Auxiliary Member-at-Large Reception—Suite 908
6:00 PM	University of Oklahoma Medical School Alumni Association Cocktail Reception—Ballroom C
7:00 PM	University of Oklahoma Medical School Alumni Association Banquet—Ballrooms E and F

SATURDAY, MAY 8

7:00 AM	Oklahoma City Clinical Society Past-Presidents Breakfast— Ballroom C
7:30 AM to NOON	Registration—Grand Ballroom Foyer
8:00 AM to 1:00 PM	Auxiliary Hospitality—Balinese Room
8:00 AM	**Scientific Program—"The Great Debates: Controversies in Medicine 1982" — Ballrooms E and F**
8:00 AM	"Morbid Obesity: Surgical vs Medical Management" Stephen R. Newmark, MD, Director, Nutrition and Metabolic Support Center, St Francis Hospital, Tulsa Roger A. Siemens, MD, Associate Professor of Surgery, University of Oklahoma Tulsa Medical College
9:00 AM	"Women in the Workplace: Should Management Be Permited to Exclude Women from Certain Jobs?" Veronica Yates, MD, Medical Director, Cities Service Company, Tulsa Honorable Cleta Deatherage, Member, Oklahoma House of Representatives, Norman
10:00 AM	Coffee Break
10:30 AM	"The Pregnant Teenager: How Can Adolescent Pregnancy Be Prevented?" Grace Ketterman, MD, Medical Director, Crittenton Center, Kansas City David Kaplan, MD, Associate Professor of Pediatrics, Chief of Adolescent Medicine, University of Oklahoma Health Sciences Center
8:00 AM	Oklahoma Society of Anesthesiologists Spring Program—Venetian Room "Current Concepts in the Diagnosis of Coronary Artery Disease" — Michael Ezekowitz, MD, University of Oklahoma Medical School "Cardiopulmonary Bypass—Anatomy, Physiology, and Pharmacology" — Carol L. Lake, MD, University of Virginia Medical Center "Anesthesia in Valvular and Coronary Heart Disease" — Carol L. Lake, MD, University of Virginia Medical Center
8:30 AM	Oklahoma Urological Society—Crystal Room "The Anatomy of the Retroperitoneum According to the Urologist"; "Spring-Loaded, Self-Retained Retractors for the Urologist" — John

	Redman, MD, Professor of Urology, University of Arkansas School of Medicine
9:00 AM	Auxiliary Post-Convention Board Meeting—Suite 908
11:00 AM	OSMA Men's Tennis Tournament — Summerfield Racquet Club, Oklahoma City
11:30 AM	Decorators Show House, Auxiliary Hospitality, Balinese Room
11:45 AM	Closing Session, OSMA House of Delegates—Ballrooms A and B
1:00 PM	Oklahoma Chapter, American College of Emergency Physicians—Regency Room
1:30 PM	Oklahoma State Radiological Society—Ballroom F
6:00 PM	OSMA Presidential Cocktail Reception—Crystal Room
7:00 PM	OSMA Presidential Inaugural Banquet and Ball—Grand Ballroom

REGISTRATION AND TICKET FUNCTION INFORMATION

Western Party

Get set for an evening of western music and revelry on Thursday, May 6, at Henson's Saloone & Restaurant, one of Oklahoma City's newest and finest western clubs. Henson's is located at 201 N. Meridian. Festivities began at 7 PM, with dining and dancing in the western tradition and entertainment provided by a top-name performer and band. The atmosphere at Henson's is informal, so wear your western gear. Tickets for the Western Party are $25 per person, dinner included. Order your tickets in advance using the registration and ticket orders form included in the meeting program mailed to members in March.

OSMA Golf Tournament

The OSMA Men's and Women's Annual Golf Tournament will take place on Friday, May 7, at Kickingbird Golf Course, 1600 East Danforth, Edmond. Starting time is 1 PM. To participate in the tournament, you must preregister using the registration and ticket orders form. The registration fee is $10 per person. Each player will be responsible for green fees and cart rental. Proceeds from the tournament will be used to offset the cost of trophies and prizes.

OSMA Tennis Tournament

The OSMA Men's and Women's Annual Tennis Tournament will be held Friday and Saturday, May 7 and 8, at Summerfield Racquet Club, NW 122 and Meridian, Oklahoma City. Play will be on the club's indoor courts. The women's tournament, a round-robin doubles event, will run from 9 AM to noon on Friday. The men's tournament will run noon to 5 PM Friday and 11 AM to 4 PM Saturday. Entry fee for the first men's event (singles or doubles) is $20 per person; for the second men's event (singles or doubles), the fee is $10 per person. Entry fee for the women's tournament is $10 per person. To participate in the tournament, you must preregister using the registration and ticket orders form.

OSMA Presidential Inaugural Banquet and Ball

The highlight of this year's social events will be a gala evening of dining, dancing, and entertainment at the OSMA Presidential Inaugural Banquet and Ball. The banquet and ball

will be held Saturday at 7 PM in the Skirvin Plaza's plush Grand Ballroom. A cocktail reception will precede the evening's main event. Entertainment for the banquet and ball will include a popular dance band and comedian. Tickets for the evening are $30 per person and should be purchased in advance using the registration and ticket orders form.

Auxiliary Activities

The OSMA Auxiliary will hold its Diamond Jubilee Luncheon and Style Show on Friday, May 7, at 12:30 PM in the Skirvin Plaza's Continental Room. The style show will feature fashions dating from 1907 to the present. Tickets for the luncheon and style show are $12 per person. On Saturday morning, May 8, the auxiliary has scheduled a tour of the Decorators Show House, located at 327 NW 14th Street, Oklahoma City. Tickets for the tour are $4 each. Order your tickets for these auxiliary activities using the registration and ticket orders form included in the meeting program.

The auxiliary will conduct a special seminar on stress management at 1 PM, Thursday, May 6, in the Skirvin Plaza's Continental Room. The seminar will feature Rebecca Cohn, RN, PhD, president of the Human Services Association of Norman. Auxiliary members and their spouses and guests are invited to attend. There is no charge for this special event. □

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April 14	Medical Office Management	Tulsa
April 15	Financial and Personnel Management	Tulsa
April 20	Telphone Collecting	Oklahoma City
April 21	Medical Office Management	Oklahoma City
April 22	Financial and Personnel Management	Oklahoma City
May 11	Telephone Collecting	Joplin, MO
May 12	Medical Office Management	Joplin, MO
June 22	Telephone Collecting	Wichita Falls, TX
June 23	Medical Office Management	Wichita Falls, TX
July 28	Medical Office Management	Enid
July 30	Medical Office Management	Woodward
Aug. 4	Medical Office Management	Oklahoma City
August 5	Medical Office Management	Ardmore
August 17	Medical Office Management	Bartlesville
August 19	Medical Office Management	Tulsa
August 26	Medical Office Management	Lawton
August 31	Medical Office Management	Muskogee

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New Medical Update Brochures Available to OSMA Members

OSMA now has three new brochures in the Medical Update series available to physician members for distribution to their patients. The new brochures deal with the subjects of patient compliance in taking medications, sound and sensible dieting, and dangers of overexposure to the sun.

The patient medication brochure, titled "A Healthy Approach to Medicines and You," encourages patients to supply the doctor with complete information about all medications they are taking, to ask questions about medicines prescribed for them, and to be certain they understand and follow the doctor's instructions. The brochure on dieting, titled "Diet Wise, Don't Be Pound Foolish," gives guidelines on the proper way to diet and discourages patients from trying nutritionally unbalanced fad or glamour diets. The third brochure, "Sun's Health Hazards Run Skin Deep," describes problems such as premature aging of the skin and skin cancer that can result from continued overexposure to the sun. It also gives advice to patients on how to adequately protect themselves from the sun.

The Medical Update series is designed for display in physicians' offices using a specially designed Medical Update placard. Both the placard and the new brochures are available at no charge to OSMA members. To order the brochures, and the placard if needed, write to Medical Update, Oklahoma State Medical Association, 601 NW Expressway, Oklahoma City, OK 73118. Please indicate by title the brochure or brochures you are requesting. □

OSMA To Be 'Honorary Bunny' For Children's Easter Party

The Oklahoma State Medical Association dons its bunny ears this month to become an "honorary bunny" sponsor of the Oklahoma Prevention of Child Abuse (OPCA) annual Easter party. The party will be held April 17 at Ripper Park in Bethany for Children who have been abused or neglected or who come from unstable home environments.

The Easter party is made possible through community support and donations. Sponsors' donations defray the cost of refreshments, games, prizes, and Easter entertainment for the children. Funds donated in excess of the party's costs will be used to further the organization's preventive programs.

The Oklahoma Prevention of Child Abuse organization was founded in 1979 in response to the alarming increase in reported incidents of child abuse and neglect. Its goal is to prevent such abuse through education in parenting skills. OPCA has developed a program on parenting skills which it presents on request to high schools, church groups, and other community organizations. It also provides materials for screening and evaluating parents considered to be "at risk."

OPCA has found that more than 80 percent of child abusers can become capable parents if they are taught adequate parenting skills. The Oklahoma State Medical Association encourages its members to support OPCA in its efforts. □

Physicians Gather Study Data On Growth and Tendon Injury

Two Oklahoma physicians are gathering data on an apparent relationship between rapid growth spurts in adolescent athletes and an increased susceptibility to injuries of the achilles tendon.

Drs John E. Poarch and William A. Grana reported that during 1981 preseason football practice, four players exhibited moderate to severe achilles tendinitis and retrocalcaneal bursitis. Their symptoms were severe enough to warrant restriction from practice and referral to the team physician.

In each case, the player had reported a rapid growth spurt of from two to six inches during the three to six months preceding practice. No other players had similar symptoms. Within seven to fourteen days, all players responded to a regimen of aspirin, stretching, wearing a foam rubber heel wedge, and routine ankle taping.

It appears that the rapid skeletal maturation in these players may have produced a lengthening of the achilles tendon which, when subjected to a sudden increase in functional

level, resulted in acute inflammation. The severity of the symptoms seemed to coincide roughly with the amount of growth.

Drs Poarch and Grana would like to enlist other physicians in the state in their data-gathering efforts by identifying ten to twelve team physicians willing to conduct a small prospective study of the problem. They also are interested in literature available on similar problems. Interested readers should contact the Division of Sports Medicine Office, PO Box 26901, 920 Stanton Young Blvd., Oklahoma City, OK, (405) 271-6664. □

Foundation's Report Describes Tulsa Medical College Progress

The Tulsa Medical Education Foundation has released a report on the progress made to date by the University of Oklahoma Tulsa Medical College in alleviating the state's physician manpower imbalance.

The report cites four major reasons for the establishment of Tulsa Medical College (TMC) in 1974 — an insufficient number of physicians in the state, too few residency positions, physician maldistribution, and a shortage of primary care physicians.

The foundation summarized the accomplishments of Tulsa Medical College as follows:

- TMC has provided residency training for 220 medical school graduates, including 91 from TMC and 44 from the University of Oklahoma. Of these 220, 111 are practicing in Oklahoma.
- With the support of the Tulsa Medical Education Foundation and the Oklahoma Physician Manpower Training Commission, TMC now offers 150 residency positions that were not available prior to 1974.
- One of every eight TMC residents who has established a practice in Oklahoma has located in a rural community.
- Of the 220 medical school graduates who underwent residency training at TMC, 186 pursued training in primary care.

The report credits the state legislature, the state regents, the University of Oklahoma, and the Tulsa medical community for TMC's contributions to improving the state's physician manpower situation. □

Fabulous Money Machine?



If you owned a machine that printed a brand new $500 bill each week, you'd be most fortunate wouldn't you? But, what if this very special machine had parts that could not be replaced? As a prudent person in control of such a machine you would want some assurance that if the machine stopped producing $500 bills, you could still receive them, wouldn't you?

Physicians are high-achieving professional breadwinners and can be compared to "money machines". But, they are also human beings, who because of their profession, have a greater than average understanding of the prospects of unexpected accidents and illnesses which can impair or destroy their income producing ability.

Through the Oklahoma State Medical Association Group Disability Program, you have the opportunity to obtain assurance of uninterrupted income if your health should fail.

Three plans are available. Plan L-65 pays accident benefits for lifetime. Sickness benefits are payable to age 65, or for a 2-year maximum period if disability begins between ages 63 and 70. Benefits are payable for 10 years based on being unable to perform every duty of your occupation; thereafter, based on being unable to perform the duties of any gainful occupation for which you are reasonably fitted.

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400.00	241.50	277.50	381.50	513.50	418.50*
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Tribute to Dr Rhoades

The recent departure of Dr Everett Rhoades to begin tenure as director of the Indian Health Service in Washington, DC, served to inspire the author of this poem. It seems a fitting tribute to Dr Rhoades and many other friends and teachers as well. Editor

THOSE MIGHTY YEARS

How do you say good-bye
To all the mighty years that grew upon your face
That slowly crept in every fold and silent place
And blended with your very soul
But never passed you by
How do you say good-bye?

Those mighty, mighty years
Of resurrecting zeal
And morning prime
We tore them off the fleeting sail of time
And they are our roots
Those silent hugging mutes
That from the deepest darkness bring
A sunny spring
And many splendid cheers
Those mighty, mighty years.

And if we say good-bye
Who would supply the spirit here
The conflict and the magic and the fear
And every now and then, a cold and frothy beer
And if we say good-bye
Who then, would suture time together, every year?

Let us wander to the tavern at the corner of the street
Have a jug of frothy spirit
Something warm to eat
Watch the many faces of a lazy afternoon
Exit together in the dimming light
And then, pretending we shall be together soon
Depart on separate ways into the night.

Hanna A. Saadah, MD

Auxiliary's 'Legislative Day' Focuses on Political Process



Oklahoma's First Lady Donna Nigh (center) joins Sherry Strebel (left), OSMA Auxiliary president, and Betty Edge, OSMA Auxiliary president-elect, for "Legislative Day at the Governor's Mansion."

It was "Legislative Day at the Governor's Mansion" for the OSMA Auxiliary on February 11, and auxiliary members took full advantage of the day's program to learn more about the legislative process and to focus on health issues affecting the medical profession and women in particular.

Members were greeted by Donna Nigh, Oklahoma's gracious first lady, who discussed the history of the Governor's Mansion and later joined auxiliary members for a buffet lunch in the third floor reception room.

The legislative process was explained by Drs William Hughes and Perry Lambird. Dr Hughes, chairman of OSMA's Council on State Legislation, discussed the procedures followed for moving a bill through the state legislature and advised auxiliary members on what actions they can take to influence legislation. Dr Lambird presented his views on the importance of lobbying for legislation at the federal level and gave several examples of how OSMA has been able to work effectively on medical issues with Oklahoma's congressional delegation.

Another guest speaker, Wanda Jo Peltier, discussed the role of women in politics. Peltier is chair of the Oklahoma Women's Political Caucus. She reviewed the progress women

have made in their struggle for full participation in the political process but cautioned that there is still a long way to go. Peltier urged auxiliary members to be aware of and to use the considerable clout they possess in the political arena.

"A woman's place is in the House and the Senate" was effectively demonstrated by two special guests who shared with auxiliary members their experiences in the state legislature.

State Senator Bernice Shedrick, the only woman member of the State Senate, told how she goes about working with other legislators and how she determines her constituents' desires and translates them into legislative actions. State Representative Rebecca Hamilton recounted her battle for recognition as a member of the House and urged auxiliary members to become more active in politics, both as candidates and as voters. She said that women bring a different, and much-needed, perspective to the legislature and that more women should be serving in all levels of government.

Besides the distinguished speakers' presentations, the day's program featured an update on current state medical issues from Lyle Kelsey, OSMA associate director, and a tour of the executive mansion for auxiliary members. □

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THIS IS ELECTION YEAR!!

*All Representatives (state and federal) are up for election.

*Even numbered districts of the State Senate are up for election.

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Death

JAMES T. MADDOX, MD
1923-1982

James T. Maddox, MD, 58, Tulsa physician, died February 21, 1982. A native of Fayette, Alabama, Dr Maddox was graduated from the Tulane University School of Medicine in 1951. Specializing in obstetrics/gynecology, he established his practice in Tulsa in 1955. Doctor Maddox was an associate professor at the University of Oklahoma State Tulsa Medical College and a former president of the Tulsa City-County Board of Health. He was a member of the American College of Obstetrics and Gynecology. □

IN MEMORIAM

1981

Gilbert L. Hyroop, MD	*April 15*
Leo A. Myers, MD	*April 19*
J. Holland Howe, MD	*April 20*
Harold M. McClure, MD	*April 27*
Sam W. Hendrix, MD	*May 12*
Roger C. Good, MD	*June 16*
Frederick G. Dorwart, MD	*June 16*
Joseph W. Kelso, MD	*June 18*
Rufus K. Goodwin, MD	*June 25*
Orville C. Armstrong, MD	*July 9*
Charles F. Paramore, MD	*July 10*
James D. Reynard, MD	*July 21*
Mark R. Everett, PhD	*August 17*
Khalil Ahmad, MD	*August 22*
M. H. Haskell, MD	*August 30*
C. F. Foster, Jr., MD	*October 11*
E. E. Shircliff, MD	*October 23*
S. N. Stone, Jr., MD	*November 9*
James R. Barnes, MD	*December 13*
E. Rankin Denny, MD	*December 16*
John P. Grimes, MD	*December 24*

1982

James T. Maddox, MD	*February 21*

□

Miscellaneous Advertisements

EMERGENCY PHYSICIANS — Oklahoma, Kansas, Missouri. Emergency medicine positions available in metropolitan, rural and recreational areas. Flexible scheduling allowing personal time off. Competitive compensation varying with facility and patient volume. Training and/or experience in emergency medicine, family practice or internal medicine. Forward CV or call Gina Taylor, Emergency Medicorp, P.A., 1950 East Santa Fe, Olathe, Kansas 66062. (800) 255-6160 or (913) 764-6160.

UROLOGIST WANTS RELOCATION from economically depressed Michigan. Fourteen years solo. Boards. Seek solo or association in city of less than 100,000 in Southwest or West. Bruce Knoll, MD, 707 N. Wisner, Jackson, Michigan 49202.

BOARD ELIGIBLE PEDIATRICIAN, 31, with good credentials, special interest in neonatology, seeking a solo, group or partnership practice in any location, available soon. Contact Key S, The Journal, Oklahoma State Medical Association, 601 NW Expressway, Oklahoma City, OK 73118.

CLAY ADAMS LAB EQUIPMENT. Reasonably priced, $4,800. 1. Cell counter HA-4, 2. chemistry analyzer, Accustat. Approximately two years old. Excellent condition. Call (405) 751-7003.

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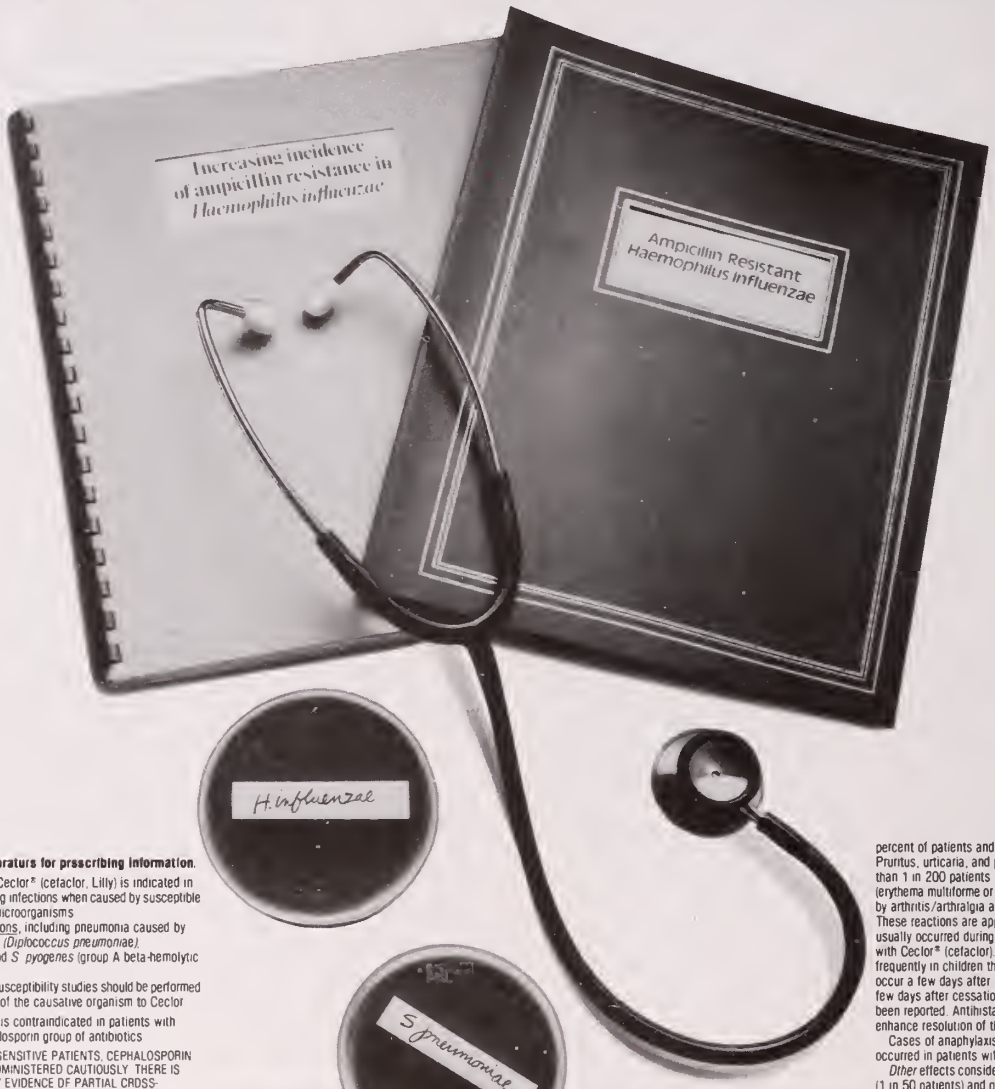
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An added complication... in the treatment of bacterial bronchiti*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-5]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor

Pulvules®, 250 and 500 mg

Brief Summary.
Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae*, and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy particularly to drugs

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coomb testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip USP, Lilly)

Usage in Pregnancy—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus

Usage in Infancy—Safety of this product for use in infants less than one month of age has not been established

Adverse Reactions: Adverse effects considered related to cefaclor therapy are uncommon and are listed below

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90)

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Ceclor

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 Pruritus, urticaria, and positive Coombs tests each occu than 1 in 200 patients. Cases of serum-sickness-like re (erythema multiforme or the above skin manifestations acc by arthritis/arthralgia and, frequently, fever) have been re These reactions are apparently due to hypersensitivity a usually occurred during or following a second course of with Ceclor® (cefaclor). Such reactions have been report frequently in children than in adults. Signs and symptom occur a few days after initiation of therapy and subside few days after cessation of therapy. No serious sequelae been reported. Antihistamines and corticosteroids appea enhance resolution of the syndrome

Cases of anaphylaxis have been reported, half of whic occurred in patients with a history of penicillin allergy

Other effects considered related to therapy included ec (1 in 50 patients) and genital pruritus or vaginitis (less t 100 patients)

Causal Relationship Uncertain—Transitory abnormalit clinical laboratory test results have been reported. Altho were of uncertain etiology, they are listed below to serve information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkalin phosphatase values (1 in 40)

Hematopoietic—Transient fluctuations in leukocyte c predominantly lymphocytosis occurring in infants and yo children (1 in 40)

Renal—Slight elevations in BUN or serum creatinine 1 in 500) or abnormal urinalysis (less than 1 in 200).

*Many authorities attribute acute infectious exacerbation chronic bronchitis to either *S. pneumoniae* or *H. influen*

Note: Ceclor is contraindicated in patients with known the cephalosporins and should be given cautiously to p allergic patients

Penicillin is the usual drug of choice in the treatmen prevention of streptococcal infections, including the pr of rheumatic fever. See prescribing information

References

1. Antimicrob. Agents Chemother., *8*:91, 1975
2. Antimicrob. Agents Chemother., *11*:470, 1977.
3. Antimicrob. Agents Chemother., *13*:584, 1978
4. Antimicrob. Agents Chemother., *12*:490, 1977
5. Current Chemotherapy (edited by W. Siegenthaler an R. Luthy), II:880. Washington, D.C.: American Societ Microbiology, 1978
6. Antimicrob. Agents Chemother., *13*:861, 1978
7. Data on file, Eli Lilly and Company
8. Principles and Practice of Infectious Diseases (edite G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p New York: John Wiley & Sons, 1979

Additional information av the profession on request Eli Lilly and Company, Indianapolis, Indiana 462

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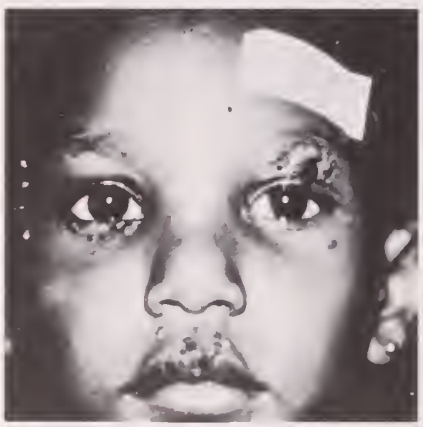
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As seen on admission



After one week of penicillin V-K therapy



Two weeks after initiation of TEGOPEN thera

Treatment failure was judged to have occurred when lesions increased in size and/or number du the initial week of treatment with penicillin V-K. *No* treatment failures occurred with Tegopen.

*Data on file, Bristol Laboratories.

Brief Summary of Prescribing Information

TEGOPEN®
(cloxacillin sodium)
Capsules and Oral Solution

For complete information, consult Official Package Circular (12) 9/11/75

INDICATIONS:

Although the principal indication for cloxacillin sodium is in the treatment of infections due to penicillinase-producing staphylococci, it may be used to initiate therapy in such patients in whom a staphylococcal infection is suspected. (See Important Note below.)

Bacteriologic studies to determine the causative organisms and their sensitivity to cloxacillin sodium should be performed.

IMPORTANT NOTE

When it is judged necessary that treatment be initiated before definitive culture and sensitivity results are known, the choice of cloxacillin sodium should take into consideration the fact that it has been shown to be effective only in the treatment of infections caused by pneumococci, Group A beta-hemolytic streptococci, and penicillin G-resistant and penicillin G-sensitive staphylococci. If the bacteriology report later indicates the infection is due to an organism other than a penicillin G-resistant staphylococcus sensitive to cloxacillin sodium, the physician is advised to continue therapy with a drug other than cloxacillin sodium or any other penicillinase-resistant semi-synthetic penicillin.

Recent studies have reported that the percentage of staphylococcal isolates res penicillin G outside the hospital is increasing, approximating the high percentage of staphylococcal isolates found in the hospital. For this reason, it is recommende penicillinase-resistant penicillin be used as initial therapy for any suspected staphy infection until culture and sensitivity results are known.

Cloxacillin sodium is a compound that acts through a mechanism similar to that of m against penicillin G-resistant staphylococci. Strains of staphylococci resistant to m have existed in nature and it is known that the number of these strains reported increasing. Such strains of staphylococci have been capable of producing serious di some instances resulting in fatality. Because of this, there is concern that widespread penicillinase-resistant penicillins may result in the appearance of an increasing n staphylococcal strains which are resistant to these penicillins.

Methicillin-resistant strains are almost always resistant to all other penicillinase penicillins (cross-resistance with cephalosporin derivatives also occurs frec Resistance to any penicillinase-resistant penicillin should be interpreted as evidence resistance to all, in spite of the fact that minor variations in *in vitro* sensitivity encountered when more than one penicillinase-resistant penicillin is tested against strain of staphylococcus.

CONTRAINDICATIONS:

A history of a previous hypersensitivity reaction to any of the penicillins is a contrain

RESULTS OF ORAL THERAPY revealed a high percentage of treatment failures with penicillin V potassium, but *no* failures with Tegopen.

		Given Tegopen® *(cloxacillin sodium)*	Given *penicillin V-K*
Staphylococcus aureus	(78 patients)	39	39
Returned to clinic at one week		29†	38†
Treatment failure at one week		0	18 (47.4%)
Staphylococcus aureus* and *Streptococcus pyogenes	(9 patients)	4	5
Returned to clinic at one week		4	5
Treatment failure at one week		0	2 (40%)
No initial bacterial growth	(14 patients)	9	5
All 14 healed, regardless of which antibiotic was administered.			
Beta-hemolytic *Streptococcus*	(1 patient)	0	1
TOTALS:	**102 patients**	**52 patients**	**50 patients**

ven patients did not return for their one-week checkup. se were all called by telephone, and their families reported the lesions had healed. One patient was dropped from the study, early, because of adverse reaction to medication.

UDY: ESCRIPTION/PROTOCOL

02 nonselected subjects, with initial bacteriology as follows: 77% *Staphylococcus aureus*, % mixed *Staphylococcus aureus* and *Streptococcus pyogenes*, and 1% beta-hemolytic *treptococcus*.†

ll patients were given randomized therapy—egopen capsules or oral solution, or penicillin -K tablets or oral solution, in recommended osages according to body weight.

- All patients were evaluated after one week's therapy. If there was no improvement, therapy was switched to the other antibiotic. The "other antibiotic" proved to be Tegopen 100% of the time because no treatment failures had occurred with Tegopen.
- A final assessment of progress was made two weeks after initiation of Tegopen therapy.

†The remainder, to equal 100%, consisted of 14 patients (13%) who exhibited no initial bacterial growth. These 14 were all healed, whether given Tegopen or penicillin V-K.

TEGOPEN®
(cloxacillin sodium)
-effective therapy for staph infections of the skin and skin structures

WARNING:

s and occasionally fatal hypersensitivity (anaphylactoid) reactions have been reported ents on penicillin therapy. Although anaphylaxis is more frequent following parenteral y it has occurred in patients on oral penicillins. These reactions are more apt to occur in uals with a history of sensitivity to multiple allergens.

e have been well documented reports of individuals with a history of penicillin ensitivity reactions who have experienced severe hypersensitivity reactions when with a cephalosporin. Before therapy with a penicillin, careful inquiry should be made ning previous hypersensitivity reactions to penicillins, cephalosporins, and other ns. If an allergic reaction occurs, the drug should be discontinued and the patient treated e usual agents, e.g., pressor amines, antihistamines, and corticosteroids.

ty for use in pregnancy has not been established.

PRECAUTIONS:

ssibility of the occurrence of superinfections with mycotic organisms or other pathogens be kept in mind when using this compound, as with other antibiotics. If superinfection during therapy, appropriate measures should be taken.

ith any potent drug, periodic assessment of organ system function, including renal, c, and hematopoietic, should be made during long-term therapy

ADVERSE REACTIONS:

ntestinal disturbances, such as nausea, epigastric discomfort, flatulence, and loose stools, have been noted by some patients. Mildly elevated SGOT levels (less than 100 units) have been reported in a few patients for whom pretherapeutic determinations were not made. Skin rashes and allergic symptoms, including wheezing and sneezing, have occasionally been encountered. Eosinophilia, with or without overt allergic manifestations, has been noted in some patients during therapy.

USUAL DOSAGE:

Adults: 250 mg. q.6h.

Children: 50 mg./Kg./day in equally divided doses q.6h. Children weighing more than 20 Kg should be given the adult dose. Administer on empty stomach for maximum absorption.

N.B.: INFECTIONS CAUSED BY GROUP A BETA-HEMOLYTIC STREPTOCOCCI SHOULD BE TREATED FOR AT LEAST 10 DAYS TO HELP PREVENT THE OCCURRENCE OF ACUTE RHEUMATIC FEVER OR ACUTE GLOMERULONEPHRITIS.

SUPPLIED:

Capsules—250 mg. in bottles of 100, 500 mg. in bottles of 100.
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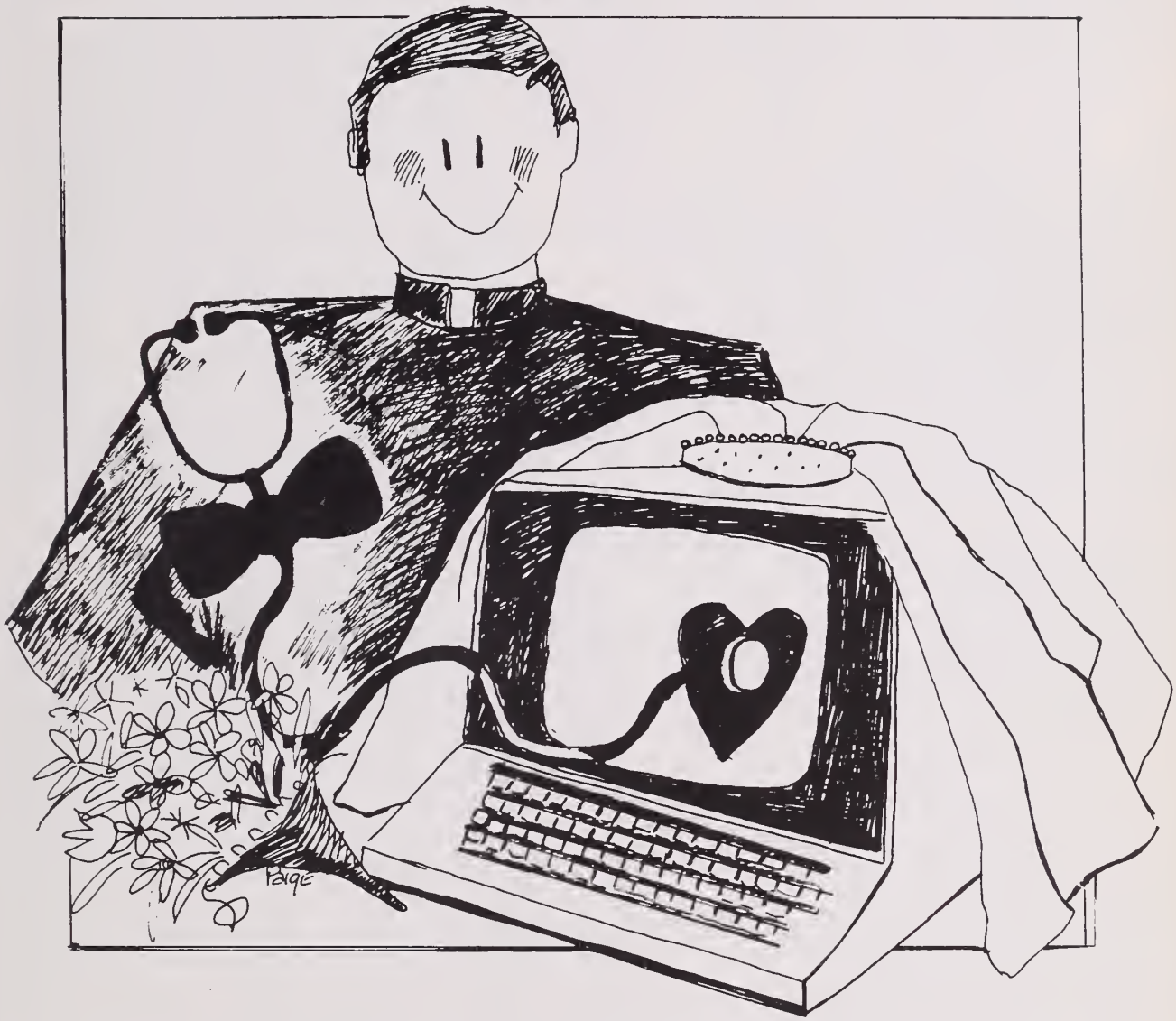
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Pheniramine maleate..... 12.5 m
Nicotinic acid..... 50.0 m

Clinically proven actions

- Antihistaminic
- Cerebral stimulant
- Vasodilator

Few side effects

- Vasodilation occasionally causes facial flushing which can be minimized by recommending that Ru-Vert® be taken following meals o with food.

Dosage

- One or two tablets three times a da

Please see next page for a summary of prescribing information

MANUFACTURED & DISTRIBUTED BY

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Shreveport, Louisiana 71106
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In Vertigo
On Balance...
RU-VERT®

See following prescribing information.

DESCRIPTIDN: Each tablet contains the following active ingredients:

Pentylenetetrazol	25.0 mg
Pheniramine maleate	12.5 mg
Nicotinic acid	50.0 mg

INDICATIONS: Ru-Vert is indicated as an adjunct therapy in the symptomatic treatment of acute or chronic vertigo.

CONTRAINDICATIONS: Convulsive disorders or known history of sensitivity to any of the listed active ingredients. Because of the vasodilating action of nicotinic acid, Ru-Vert should not be used in patients with hypotension.

WARNINGS: The safety of this preparation during pregnancy and lactation has not been established. Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child.

PRECAUTIDNS: Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of Ru-Vert who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

Pheniramine maleate, like other antihistamines, may produce sedative side effects in certain patients.

Transient vasodilatation due to rapid absorption of nicotinic acid may produce facial flushing and a sensation of warmth. These effects may be ameliorated by recommending that Ru-Vert be taken following meals or with food.

ADVERSE REACTIONS: Pentylenetetrazol in high doses may produce toxic symptoms typical of central nervous system stimulants, which act on the higher motor centers and the spinal cord. Convulsions resulting from this drug are spontaneous and are not induced by external stimuli. They usually last for several minutes and are followed by profound depression and respiratory paralysis. Death has been reported from the ingestion of 10 grams of pentylenetetrazol.

DRUG ABUSE: Drug dependence has not been reported with Ru-Vert.

DVERDDSAGE: Signs and symptoms of acute overdose may be due primarily from overstimulation of the central nervous system and from excessive vasodilatation with resulting autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyperreflexia, sweating, confusion, hallucinations, headache, hyperpyrexia, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage.

Intensive care must be provided to maintain adequate circulation and respiratory exchange.

DDSAGE AND ADMINISTRATIDN: The recommended dosage of Ru-Vert for vertigo or motion sickness is 1 or 2 tablets three times a day with meals or light snacks.

This drug is not for use in children under 12 years of age.

HOW SUPPLIED:

Bottles of 100 tablets	NDC 0524-0060-01
Bottles of 300 tablets	NDC 0524-006D-03

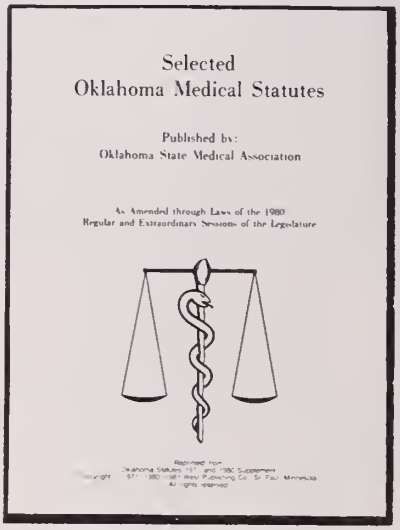
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It all adds up,

in today's major hypertension studies

VA Study[1]

- 450 patients studied
- Mild to moderate hypertensives
- Comparison of propranolol and reserpine for Step-2 antihypertensive therapy
- **Conclusion:** when added to a thiazide diuretic, reserpine was effective in a larger percentage of patients (88%) than was propranolol (81%)!

HDFP Study[2]

- More than 10,000 patients studied
- Conducted at 14 centers over 5 years
- Proved that compliance with Step Care lowers death rate from all cardiovascular causes
- **Conclusion:** reserpine-thiazide regimens were *preferred* for Step-2 therapy, and were deemed effective, without significant adverse effects!

MRFIT Study[3]

- 6-year, 12,000-patient study, to be completed in 1982
- Assesses factors that may increase risk of cardiovascular disease
- Preferred Step-2 regimen: reserpine-thiazide
- **Full year's data:** reserpine is causing less depression than methyldopa, diuretics, or placebo!

That's why the combination in

Salutensin®

(hydroflumethiazide 50 mg/ reserpine 0.125 mg)

Is the preferred Step-2 regimen

Please see references and brief summary of prescribing information on adjacent page.

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Salutensin®
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Salutensin-Demi™
(hydroflumethiazide 25 mg/reserpine 0.125 mg)
Brief Summary of Prescribing Information (12) 10/27/78
For complete information consult Official Package Circular.

WARNING

This fixed combination drug is not indicated for initial therapy of hypertension. Hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension is not static, but must be reevaluated as conditions in each patient warrant.

CONTRAINDICATIONS

Anuria, oliguria, active peptic ulceration, ulcerative colitis, severe depression or hypersensitivity to its components contraindicates the use of Salutensin.

WARNINGS

Small-bowel lesions (obstruction, hemorrhage, perforation and death) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs. Use cautiously, and only when deemed essential, in fertile, pregnant or lactating patients.

Use in Pregnancy—Thiazides cross the placenta and can cause fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly electrolyte disturbances. Fatal reactions may occur with reserpine during electroshock therapy; discontinue Salutensin 2 weeks before such therapy. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine-treated mothers.

PRECAUTIONS

Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss may cause digitalis intoxication. *Potassium loss responds to potassium-rich foods, potassium chloride or, if necessary, discontinuation of therapy.* Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy 2 weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution in patients with chronic uremia, angina pectoris, coronary thrombosis or extensive cerebral vascular disease or bronchial asthma and in those with a history of peptic ulceration or bronchial asthma; in post-sympathectomy patients; in patients on quinidine: and in patients with gallstones, in whom biliary colic may occur. Patients who have diabetes mellitus or who are suspected of being prediabetic should be kept under close observation if treated with this agent.

ADVERSE REACTIONS

Hydroflumethiazide—Skin-rashes (including exfoliative dermatitis), skin photosensitivity, urticaria, necrotizing angiitis, xanthopsia, granulocytopenia, aplastic anemia, orthostatic hypotension (potentiated with alcohol, barbiturates or narcotics), allergic glomerulonephritis, acute pancreatitis, liver involvement (intrahepatic cholestatic jaundice), purpura plus or minus thrombocytopenia, hyperuricemia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation.

Reserpine—Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth, weight gain, impotence or decreased libido, conjunctival injection, dull sensorium, deafness, glaucoma, uveitis, optic atrophy, and, with overdosage, agitation, insomnia and nightmares.

USUAL DOSE

The usual adult dose of Salutensin is one tablet once or twice daily. If a smaller amount of thiazide diuretic is desired, Salutensin-Demi, one tablet once or twice daily can be given.

SUPPLIED

Bottles of 10 and 1000 scored tablets.

REFERENCES

1. Propranolol in the treatment of essential hypertension. Veterans Administration Cooperative Study Group on Antihypertensive Agents. *JAMA* 237:2303-2310, 1977.
2. Five-year findings of the hypertension detection and follow-up program: I. Reduction in mortality of persons with high blood pressure, including mild hypertension. Hypertension Detection and Follow-up Program Cooperative Group. *JAMA* 242:2562-2571, 1979.
3. Moser M, Kaplan NM, Sullivan JM, Paul O, in discussion: Perspectives on MRFIT: Can the interim data be applied to your practice...? An Interim Report on the Ongoing Multiple Risk Factor Intervention Trial: MRFIT. *New Perspectives on Hypertension* 2(1):10-19, February 1981.

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*Reference: 1981/82 *American Druggist Blue Book*

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A Tonic for Geriatric Patients

A pleasant tasting tonic containing iron, vitamins, minerals, and an analeptic. Ideal for those who may benefit from vitamin deficiency prevention. Just one tablespoon before each meal.

DESCRIPTION Forty-five milliliters of SU-TON contains the following ingredients: Pentylenetetrazol, 30 mg • Niacin, 50 mg • Vitamin B-1, 10 mg • Vitamin B-2, 5 mg • Vitamin B-6, 1 mg • Vitamin B-12, 3 mcg • Manganese (as Manganese Sulfate), 1 mg • Magnesium (as Magnesium Sulfate), 2 mg • Zinc (as Zinc Sulfate), 1 mg • Iron (as Ferric Pyrophosphate Soluble), 22 mg • Alcohol, 18%

INDICATIONS AND USAGE SU-TON contains pentylenetetrazol which may be helpful in the older patient as an analeptic agent when mental confusion and memory defects are present. SU-TON also contains vitamins, trace minerals, and iron, for those patients who may benefit by preventing the development of a deficiency.

CONTRAINDICATIONS Epilepsy, convulsive disorders or known history of sensitivity to any of the listed active ingredients.

WARNINGS The safety of this preparation during pregnancy and lactation has not been established. Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child.

PRECAUTIONS Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of SU-TON who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

ADVERSE REACTIONS Pentylenetetrazol in high doses may produce toxic symptoms typical of central nervous system stimulants, which act on the higher motor centers and the spinal cord. Convulsions resulting from this drug are spontaneous and are not induced by external stimuli. They usually last for several minutes and are followed by profound depression and respiratory paralysis. Death has been reported from the ingestion of 10 grams of pentylenetetrazol.

DRUG ABUSE Drug dependence has not been reported with SU-TON.

OVERDOSAGE Signs and symptoms of acute overdose may be due principally from overstimulation of the central nervous system and from excessive vasodilatation with resulting autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyperreflexia, sweating, confusion, hallucinations, headache, hyperpyrexia, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage. Intensive care must be provided to maintain adequate circulation and respiratory exchange.

DOSAGE AND ADMINISTRATION One tablespoonful (15 ml) 3 times a day, 20–30 minutes before meals. This drug is not for use in children under 12 years of age.

HOW SUPPLIED Bottles of 473 ml (16 fl. oz.) NOC 0524-1015-

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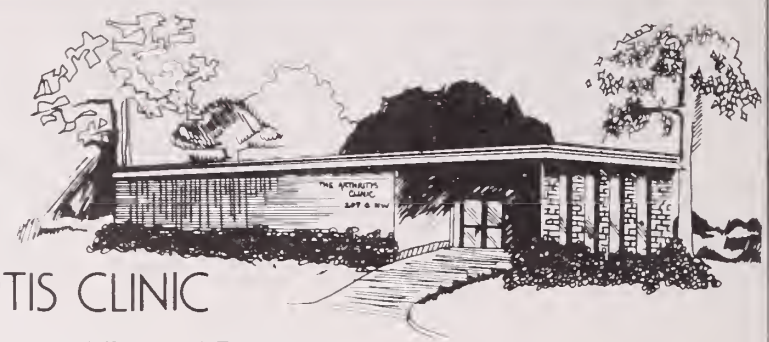
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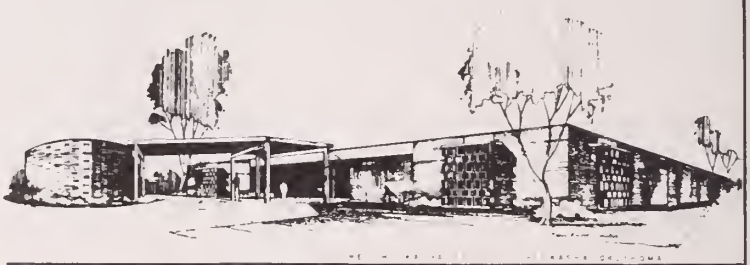
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of the Oklahoma State Medical Association

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Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession.

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Authors will receive reprint order forms from the Transcript Press, P.O. Drawer 1058, Norman, Oklahoma 73070, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.

BACK ISSUES

Microfilm copies of back issues of *The Journal* may now be purchased from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

OSMAA 1982 ANNUAL MEETING

May 6-8, 1982 Skirvin Plaza Hotel

Oklahoma City, Oklahoma

SCHEDULE OF EVENTS

DATE	
Thursday, May 6	
8:00 AM to 4:00 PM	Auxiliary Hospitality—Balinese Room
8:00 AM to 4:00 PM	Registration—Grand Ballroom Foyer
9:00 AM	Nurses Loan Fund—Suite 908
9:30 AM	Long Range Planning—Suite 908
10:00 AM	Pre-Convention Board Meeting—Suite 908
11:45 AM	Joint Board Luncheon—Continental Room, 14th Floor
1:00 PM to 2:30 PM	Stress Management Seminar — Rebecca Cohn, RN, PhD — Continental Room
7:00 PM	Western Party—Henson's
Friday, May 7	
7:30 AM to 5:00 PM	Auxiliary Hospitality — Balinese Room
7:45 PM	Auxiliary Past Presidents' Breakfast—Crystal Room
8:00 AM to 4:00 PM	Registration—Grand Ballroom Foyer
8:30 AM to 9:00 PM	Credentials Check—Venetian Room Foyer, 14th Floor
9:00 AM to 12:00 Noon	Auxiliary House of Delegates & Installation of Officers AMA Auxiliary President Isobel Dvorsky, Special Guest — Venetian Room, 14th Floor
12:30 PM to 2:30 PM	Diamond Jubilee Auxiliary Luncheon — Continental Room
5:00 PM to 6:00 PM	Members at Large Reception — Suite 908
7:00 PM	OU Alumni Association Reception and Dinner-Dance
Saturday, May 8	
8:00 AM to 1:30 PM	Auxiliary Hospitality — Balinese Room
9:00 AM	Post-Convention Board Meeting — Suite 908
11:30 AM	Decorator's Show House — Transportation Provided
6:00 PM	OSMA Presidential Cocktail Reception — Crystal Room
7:00 PM	OSMA Inaugural Dinner-Dance — Grand Ballroom

Other Activities

Tennis and Golf will be available which you will note from the detailed program mailed to your physician spouse.

Underground Oklahoma City Tours — Check Hospitality Desk for times.

Please get your pre-registration in early to help us make our plans. You must pre-register for the Diamond Jubilee Luncheon.

A kit of public information materials on hypertension is available from the National Heart, Lung, and Blood Institute in connection with the observance of National High Blood Pressure Month in May. The kit is aimed at helping physicians muster support for the observance from decision-makers, the media, consumers, and patients. For more information and copies of the kit, write High Blood Pressures Month 1982, High Blood Pressure Information Center, 120/80 National Institutes of Health, Bethesda, MD 20205.

From an article in the *Daily Oklahoman* describing a recently published book on the most and least desirable cities in which to live: "Fortunately for St Cloud, Minnesota, residents, the city has the lowest crime rate because it has the second lowest number of physicians per person." The logic here escapes us, as it surely did the reporter, too.

The University of Oklahoma's medical class of 1927 will hold its 55th reunion on June 6 in Oklahoma City. Of the original class of 42 members, only nine are still living, and only three still are in active practice. The class of 1927 produced Oklahoma's first neurosurgeon, Dr Harry Wilkins.

A historic educational event will take place this fall in Toronto, Canada, when the American College of Chest Physicians (ACCP) and the International Academy of Chest Physicians and Surgeons present a six-day scientific program incorporating the 14th World Congress on Diseases of the Chest and the 48th Annual Scientific Assembly of the ACCP. This will be the first time the college has combined its World Congress with the ACCP's Annual Assembly. The meeting will be held at the Sheraton Centre Hotel in Toronto on October 10-15. Registration information and copies of the advance program may be obtained by writing to Dale E. Braddy, Director of Education, American College of Chest Physicians, 911 Busse Highway, Park Ridge, IL 60068.

In a joint statement for parents and physicians, Edward N. Brandt, Jr., MD, HHS assistant secretary for health, advised that the use of aspirin to treat children with chicken pox or flu-like illness has been linked with "possible increased risk" of Reye's syndrome. The statement was issued following a review of four scientific studies by an outside advisory group. Ralph Nader's Health Research Group termed the warning too weak, while aspirin manufacturers disputed the studies and the said statement was "totally unjustified."

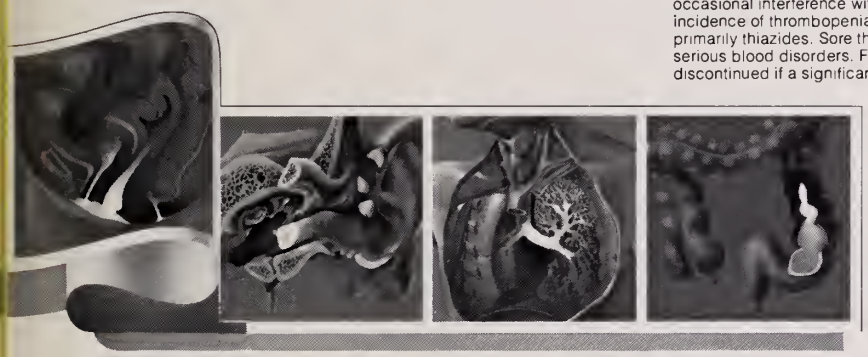
In a letter to the Food and Drug Administration (FDA), the American Medical Association (AMA) expressed concern about the public promotion of very low calorie diet products. The AMA stated that the evidence of potential hazard from very low calorie diets is sufficient to warrant a suitable label warning and to consider the option of regulating some diet products as "medical foods" or even new drugs.

The Fifth Annual SIDS Awareness Day will be held May 7 at the State of Oklahoma Teaching Hospitals' Center for Continuing Education. The purpose of the program is to provide up-to-date information concerning the possible relationship between Sudden Infant Death Syndrome and sleep apnea, the impact of apnea monitoring, and the purpose and function of the National Sudden Infant Death Syndrome Foundation. It also will explain where and how Oklahomans affected by SIDS can obtain support and counseling. For information on the program contact Roy C. Allen, EdD, Director, Center for Continuing Education, State of Oklahoma Teaching Hospitals, (405) 271-5663. □

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For acute otitis media in children due to susceptible strains of *Haemophilus influenzae* or *Streptococcus pneumoniae* when in physician's judgment it offers an advantage over other antimicrobials. Limited clinical information presently available on effectiveness of treatment of otitis media with Bactrim when infection is due to ampicillin-resistant *Haemophilus influenzae*. To date, there are limited data on the safety of repeated use of Bactrim in children under two years of age. Bactrim is not indicated for prophylactic or prolonged administration in otitis media at any age.

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For enteritis due to susceptible strains of *Shigella flexneri* and *Shigella sonnei* when antibacterial therapy is indicated.

Also for the treatment of documented *Pneumocystis carinii* pneumonitis. To date, this drug has been tested only in patients 9 months to 16 years of age who were immunosuppressed by cancer therapy.

Contraindications: Hypersensitivity to trimethoprim or sulfonamides; patients with documented megaloblastic anemia due to folate deficiency; pregnancy at term; nursing mothers because sulfonamides are excreted in human milk and may cause kernicterus; infants less than 2 months of age.

Warnings: BACTRIM SHOULD NOT BE USED TO TREAT STREPTOCOCCAL PHARYNGITIS. Clinical studies show that patients with group A β-hemolytic streptococcal tonsillopharyngitis have higher incidence of bacteriologic failure when treated with Bactrim than do those treated with penicillin. Deaths from hypersensitivity reactions, agranulocytosis, aplastic anemia and other blood dyscrasias have been associated with sulfonamides. Experience with trimethoprim is much more limited but occasional interference with hematopoiesis has been reported as well as an increased incidence of thrombopenia with purpura in elderly patients on certain diuretics, primarily thiazides. Sore throat, fever, pallor, purpura or jaundice may be early signs of serious blood disorders. Frequent CBC's are recommended; therapy should be discontinued if a significantly reduced count of any formed blood element is noted.

Precautions: *General:* Use cautiously in patients with impaired renal or hepatic function, possible folate deficiency, severe allergy or bronchial asthma. In patients with glucose-6-phosphate dehydrogenase deficiency, hemolysis, frequently dose-related, may occur. During therapy, maintain adequate fluid intake and perform frequent urinalyses, with careful microscopic examination, and renal function tests, particularly where there is impaired renal function. Bactrim may prolong prothrombin time in those receiving warfarin; reassess coagulation time when administering Bactrim to these patients.

Pregnancy: Teratogenic Effects: Pregnancy Category C. Because trimethoprim and sulfamethoxazole may interfere with folic acid metabolism, use during pregnancy only if potential benefits justify the potential risk to the fetus.

Adverse Reactions: All major reactions to sulfonamides and trimethoprim are included, even if not reported with Bactrim. *Blood dyscrasias:* Agranulocytosis, aplastic anemia, megaloblastic anemia, thrombopenia, leukopenia, hemolytic anemia, purpura, hypoprothrombinemia and methemoglobinemia. *Allergic reactions:* Erythema multiforme, Stevens-Johnson syndrome, generalized skin eruptions, epidermal necrolysis, urticaria, serum sickness, pruritus, exfoliative dermatitis, anaphylactoid reactions, periorbital edema, conjunctival and scleral injection, photosensitization, arthralgia and allergic myocarditis. *Gastrointestinal reactions:* Glossitis, stomatitis, nausea, emesis, abdominal pains, hepatitis, diarrhea and pancreatitis. *CNS reactions:* Headache, peripheral neuritis, mental depression, convulsions, ataxia, hallucinations, tinnitus, vertigo, insomnia, apathy, fatigue, muscle weakness and nervousness. *Miscellaneous reactions:* Drug fever, chills, toxic nephrosis with oliguria and anuria, periarteritis nodosa and L.E. phenomenon. Due to certain chemical similarities to some goitrogens, diuretics (acetazolamide, thiazides) and oral hypoglycemic agents, sulfonamides have caused rare instances of goiter production, diuresis and hypoglycemia in patients; cross-sensitivity with these agents may exist. In rats, long-term therapy with sulfonamides has produced thyroid malignancies.

Dosage: Not recommended for infants less than two months of age.

URINARY TRACT INFECTIONS AND SHIGELLOSIS IN ADULTS AND CHILDREN, AND ACUTE OTITIS MEDIA IN CHILDREN:

Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

PNEUMOCYSTIS CARINII PNEUMONITIS:

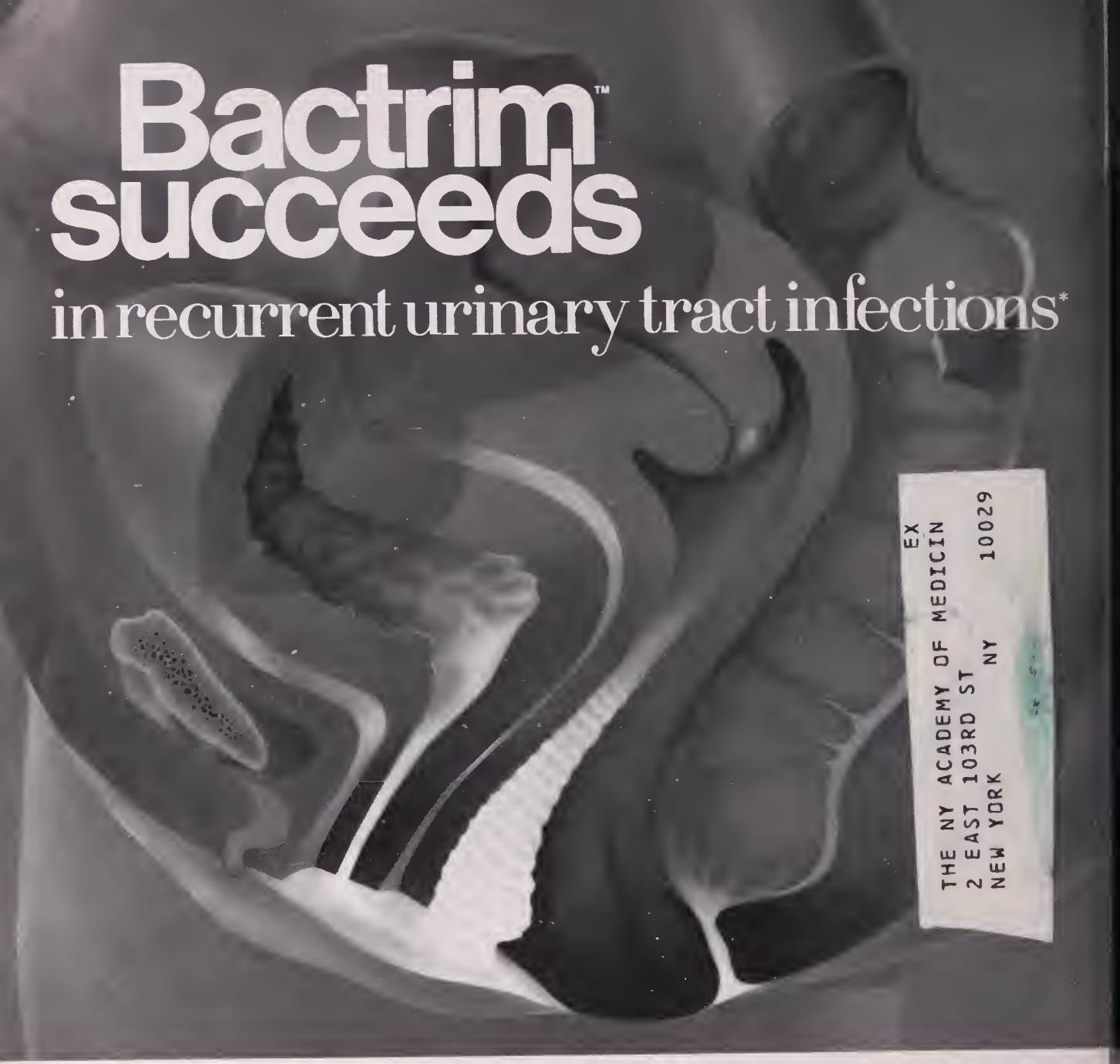
Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100; Prescription Paks of 20 and 28. *Tablets,* each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100; Prescription Paks of 40. *Pediatric Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry-flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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1. Rubin RH, Swartz MN: *N Engl J Med* 303:426-432, Aug 21, 1980. 2. Data on file, Medical Department, Hoffmann-La Roche Inc.

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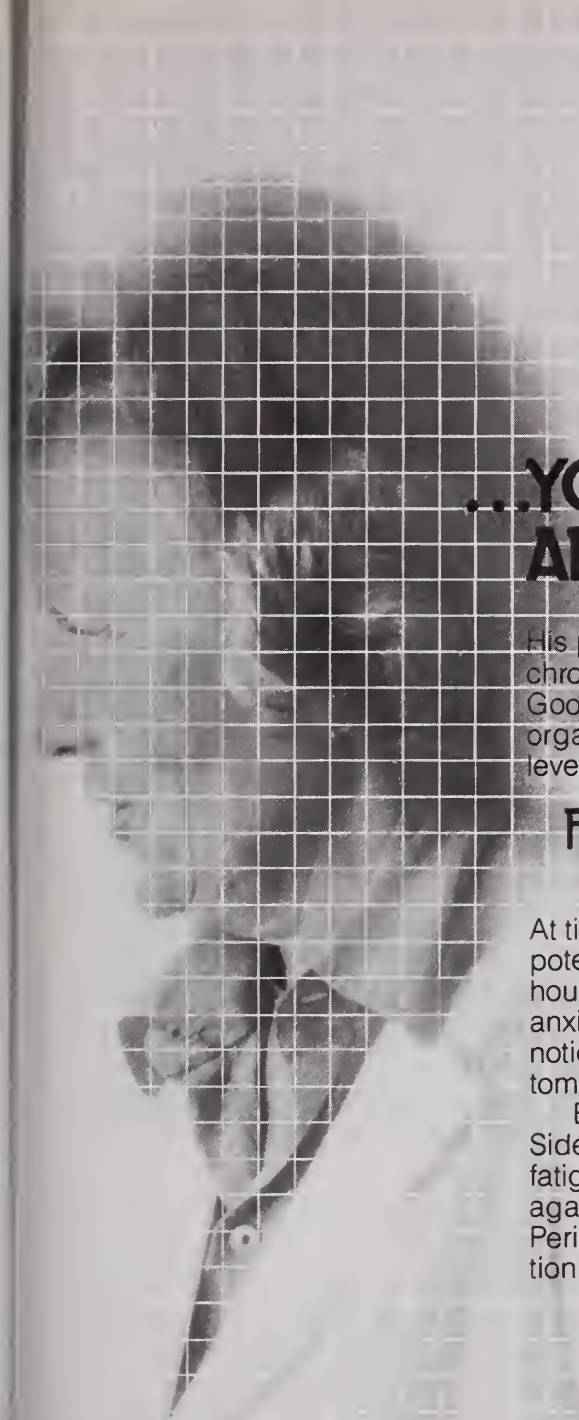
Volume 75 — Number 5 — May 1982



John A. McIntyre, MD OSMA President, 1982-83

THE PATIENT THINKS HE HAS HEART TROUBLE...





...YOU KNOW IT'S REALLY ANXIETY SYMPTOMS

His presenting symptoms: palpitations, chest pain, chronic exhaustion and occasional difficulties in breathing. Good reason for concern. A complete workup uncovers no organic dysfunction, but it *does* reveal excessively high levels of anxiety and apprehension.

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At times like this, Valium (diazepam/Roche) can be a potent therapeutic ally. It works promptly. Within just a few hours, the patient begins to feel calmer. And in a few days, anxiety relief not only becomes more pronounced but a noticeable reduction in anxiety-generated somatic symptoms also occurs.

Equally important, Valium is generally well tolerated. Side reactions more serious than drowsiness, ataxia and fatigue are rare. Patients should, of course, be cautioned against driving or drinking alcohol while on Valium therapy. Periodic reassessment of the need for antianxiety medication should also be performed.

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diazepam/Roche

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VALIUM® (diazepam/Roche)

Before prescribing, please consult complete product information, a summary of which follows:
Indications: Management of anxiety disorders, or short term relief of symptoms of anxiety. Anxiety or tension associated with the stress of everyday life usually does not require treatment with an anxiolytic. Symptomatic relief of acute agitation, tremor, delirium tremens and hallucinosis due to acute alcohol withdrawal; adjunctively in skeletal muscle spasm due to reflex spasm to local pathology, spasticity caused by upper motor neuron disorders, athetosis, stiff-man syndrome; convulsive disorders (not for sole therapy).
The effectiveness of Valium (diazepam/Roche) in long-term use, that is, more than 4 months, has not been assessed by systematic clinical studies. The physician should periodically reassess the usefulness of the drug for the individual patient.
Contraindicated: Known hypersensitivity to the drug. Children under 6 months of age. Acute narrow angle glaucoma; may be used in patients with open angle glaucoma who are receiving appropriate therapy.
Warnings: Not of value in psychotic patients. Caution against hazardous occupations requiring complete mental alertness. When used adjunctively in convulsive disorders, possibility of increase in frequency and/or severity of grand mal seizures may require increased dosage of standard anticonvulsant medication; abrupt withdrawal may be associated with temporary increase in frequency and/or severity of seizures. Advise against simultaneous ingestion of alcohol and other CNS depressants. Withdrawal symptoms similar to those with barbiturates and alcohol have been observed with abrupt discontinuation, usually limited to extended use and excessive doses. Infrequently, milder withdrawal symptoms have been reported following abrupt discontinuation of benzodiazepines after continuous use, generally at higher therapeutic levels, for at least several months. After extended therapy, gradually taper dosage. Keep addiction-prone individuals under careful surveillance because of their predisposition to habituation and dependence.

***Usage in Pregnancy:* Use of minor tranquilizers during first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**

Precautions: If combined with other psychotropics or anticonvulsants, consider carefully pharmacology of agents employed; drugs such as phenothiazines, narcotics, barbiturates, MAO inhibitors and other antidepressants may potentiate its action. Usual precautions indicated in patients severely depressed, or with latent depression or with suicidal tendencies. Observe usual precautions in impaired renal or hepatic function. Limit dosage to smallest effective amount in elderly and debilitated to preclude ataxia or oversedation. The clearance of Valium and certain other benzodiazepines can be delayed in association with Tagamet (cimetidine) administration. The clinical significance of this is unclear.
Side Effects: Drowsiness, confusion, diplopia, hypotension, changes in libido, nausea, fatigue, depression, dysarthria, jaundice, skin rash, ataxia, constipation, headache, incontinence, changes in salivation, slurred speech, tremor, vertigo, urinary retention, blurred vision. Paradoxical reactions such as acute hyperexcited states, anxiety, hallucinations, increased muscle spasticity, insomnia, rage, sleep disturbances, stimulation have been reported; should these occur, discontinue drug. Isolated reports of neutropenia, jaundice; periodic blood counts and liver function tests advisable during long-term therapy.
Dosage: Individualize for maximum beneficial effect. *Adults*: Anxiety disorders, symptoms of anxiety, 2 to 10 mg b.i.d. to q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; adjunctively in skeletal muscle spasm, 2 to 10 mg t.i.d. or q.i.d.; adjunctively in convulsive disorders, 2 to 10 mg b.i.d. to q.i.d. *Geriatric or debilitated patients*: 2 to 2½ mg, 1 or 2 times daily initially, increasing as needed and tolerated. (See Precautions.) *Children*: 1 to 2½ mg t.i.d. or q.i.d. initially, increasing as needed and tolerated (not for use under 6 months).
How Supplied: For oral administration. Valium scored tablets—2 mg, white; 5 mg, yellow; 10 mg, blue—bottles of 100* and 500.* Prescription Paks of 50, available in trays of 10.* Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25,† and in boxes containing 10 strips of 10.†

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Pheniramine maleate..... 12.5 m
Nicotinic acid..... 50.0 m

Clinically proven actions

- Antihistaminic
- Cerebral stimulant
- Vasodilator

Few side effects

- Vasodilation occasionally causes facial flushing which can be minimized by recommending that Ru-Vert® be taken following meals o with food.

Dosage

- One or two tablets three times a da

Please see next page for a summary of prescribing information

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In Vertigo
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See following prescribing information.

DESCRIPTION: Each tablet contains the following active ingredients:

Pentylenetetrazol	25.0 mg
Pheniramine maleate	12.5 mg
Nicotinic acid	50.0 mg

INDICATIONS: Ru-Vert is indicated as an adjunct therapy in the symptomatic treatment of acute or chronic vertigo.

CONTRAINDICATIONS: Convulsive disorders or known history of sensitivity to any of the listed active ingredients. Because of the vasodilating action of nicotinic acid, Ru-Vert should not be used in patients with hypotension.

WARNINGS: The safety of this preparation during pregnancy and lactation has not been established. Use of this drug requires that the physician evaluate the potential benefits of the drug against any possible hazard to the mother and child.

PRECAUTIONS: Although there are no absolute contraindications to pentylenetetrazol, it should be used with caution in epileptic patients or those known to have a low convulsive threshold or a focal brain lesion. Caution should be exercised when treating patients with high doses of Ru-Vert who have heart disease. While pentylenetetrazol does not act directly on the myocardium, the results from central vagal stimulation could cause bradycardia.

Pheniramine maleate, like other antihistamines, may produce sedative side effects in certain patients.

Transient vasodilatation due to rapid absorption of nicotinic acid may produce facial flushing and a sensation of warmth. These effects may be ameliorated by recommending that Ru-Vert be taken following meals or with food.

ADVERSE REACTIONS: Pentylenetetrazol in high doses may produce toxic symptoms typical of central nervous system stimulants, which act on the higher motor centers and the spinal cord. Convulsions resulting from this drug are spontaneous and are not induced by external stimuli. They usually last for several minutes and are followed by profound depression and respiratory paralysis. Death has been reported from the ingestion of 10 grams of pentylenetetrazol.

DRUG ABUSE: Drug dependence has not been reported with Ru-Vert.

OVERDOSAGE: Signs and symptoms of acute overdose may be due primarily from overstimulation of the central nervous system and from excessive vasodilatation with resulting autonomic nervous system imbalance. The symptoms may include the following: vomiting, agitation, tremors, hyperreflexia, sweating, confusion, hallucinations, headache, hyperpyrexia, tachycardia. Treatment consists of appropriate supportive measures. If signs and symptoms are not too severe and the patient is conscious, gastric evacuation may be accomplished by induction of emesis or gastric lavage.

Intensive care must be provided to maintain adequate circulation and respiratory exchange.

DOSAGE AND ADMINISTRATION: The recommended dosage of Ru-Vert for vertigo or motion sickness is 1 or 2 tablets three times a day with meals or light snacks.

This drug is not for use in children under 12 years of age.

HOW SUPPLIED:

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Bottles of 300 tablets	NDC 0524-0060-03

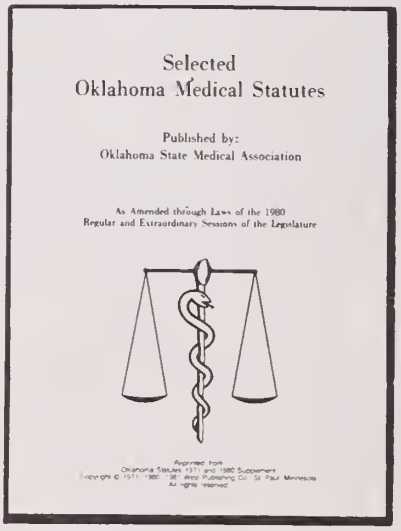
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OPTIONS

We physicians do a lot of things very well. We recognize and effectively treat many serious infections. We repair the breaks and tears and cuts of trauma. We open obstructed passageways and close others that shouldn't be open. We lower and raise blood pressure when it is too high or too low. We strengthen weak hearts and calm overactive ones. We replace some substances the body quits producing and eliminate other substances the body overproduces. We identify the sources and causes of many diseases and eradicate some of them. We comfort and console our patients and their families. Many, many other things we do very well.

There are, however, some things we don't do well. In number, there are progressively fewer things we do poorly, thanks to expanding technologies and diligent research. But perhaps because of these advances and their concomitant demands for our time and attention, we are neglecting some of our responsibilities to our patients; responsibilities we formerly discharged thoroughly and satisfactorily.

Leading the list of neglected responsibilities is that of allowing our patients to participate in making decisions about the treatment of their illnesses. We tend to deprive them of options and alternatives by omission — failing to describe them — and by commission — concentrating almost exclusively on our individual preferences.

A current case in point; the lump in the female breast. Part of the reason it strikes such terror in the patient, and surely often delays her initial examination, is that she is certain she will be admitted to a hospital, be put to sleep, undergo a biopsy and wake up with a disfigured breast or worse; without either breast or even any breast muscles; bare ribs covered with scars and grotesquely deformed armpits. Of course, the procedure is rarely if ever this abrupt or brutal. But unless the patient is meticulously prepared and thoroughly informed of the treatment options available to her in every step of the process, it will *seem* abrupt and brutal. To her loved ones, it will appear to be designed mayhem. And the surgeon, even though a cure may have been effected by a radical mastectomy, may be forever after referred to as a butcher.

Of course it takes a lot of time, measured in hours, to discharge this responsibility to each patient whose treatment includes some options. And it takes even more time for us to keep up with the knowledge of those ever-expanding options. But we must spend whatever time it takes to inform our patients about their illnesses and all of the treatment alternatives available to them.

A good place to begin is with the lump in the female breast. Massachusetts already has a law requiring that treatment options be made known to such patients.

We just ran out of options. *MRJ*



It is a great and signal honor for me to have been elected your president for the coming year. To assume such a task engenders a marked sense of humility and dedication; it is my hope that my term of office will result in the continued growth and increased stature of the Oklahoma State Medical Association so well exemplified by the terms of my predecessors.

The traditional goals of our association of fostering the continued education of its members, ensuring quality care, and providing services for its members has, of necessity, been expanded during the last number of years to include its entrance into the arena of combating the many activities of government in the medical care field and attempting to channel them into meaningful processes. We have not won, but neither have we lost, this effort. Our close monitoring and skillful influencing of both state and federal legislative activities have consumed much time and effort, and must be an ongoing activity. Our close association with the American Medical Association has been mutually effective and productive to ease some of the onerous effects of these legislative actions.

It was my privilege, in February of this year, to attend the American Medical Association's Leadership Conference held in Chicago. Its theme was "The New Beginning," as a mark of having completed ten years of leadership conferences, and indicating that medical leadership is taking a new role in governmental affairs. I perceive a definite change of attitude in the American Medical Association leadership, foregoing the old posture of "I'm agin it," to one of positive, innovative, researched plans for improving health care while also addressing the immediate and pressing necessity of changing the effect of these activities upon the national economy. National political leaders, as well as business leaders, are seeking input from organized medicine in the effort to solve these mountainous problems. Most of the non-medical speakers at the conference referred to this need of help from organized medicine in pleas for workable methods and ideas from us.

Opportunity is unlimited in the Oklahoma State Medical Association for all its members to play a significant role in improving all our functions. All members are urged to become active participants in the activities of our association. There are many active councils and committees which will welcome your presence and help in continuing to build and improve our society. Please allow me to urge you to contact me personally, or the executive office, in regard to your participation; you will surely find it to be a rewarding experience. My years of participation in the activities of our association have been most satisfying, and have given me sense of the quality and dedication of our past leaders. Although basically a conservative organization, our society has met its challenges with imagination and vigor, and with sound, innovative ideas which have produced excellent solutions to many serious problems. Our staff is highly efficient and effective, and serves us in many capacities of which we are not aware.

These remarks are meant to serve as a springboard for me to say that I am proud of the Oklahoma State Medical Association; that it is an efficient, up-and-coming, ongoing organization, with unlimited potential to improve medical practice and protect its members from unwarranted encroachments; that it needs more participation from its membership; and that your new president will do everything in his power to prosecute his office to the betterment of our association.

John A. McIntyre, MD

OSMA JOURNAL / scientific

Fragile X-Linked Mental Retardation: A New Genetic Entity

NANCY J. CARPENTER, PhD
LUIS REINOSO, MD
BURHAN SAY, MD

A new X-linked form of mental retardation distinguished by macro-orchidism and an X chromosome abnormality may be one of the most common forms of retardation second only to Down syndrome.

INTRODUCTION

The over-representation of males in mentally retarded populations was first noted 40 years ago.[1] This excess, however, has only recently been attributed to X-linked recessive forms of mental retardation (MR).[2, 3] One such entity, termed "fragile X-linked mental retardation," is associated with certain facial characteristics, macro-orchidism, and an X chromosome abnormality. This disorder is apparently quite prevalent, affecting approximately one-third of the families with X-linked mental retardation.[4] Therefore, early diagnosis of this condition is essential if proper genetic counseling is to be extended to the affected families.

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CLINICAL AND CYTOGENETIC STUDIES

We have identified six families with fragile X-linked mental retardation in a survey of 80 retarded males conducted at Hissom Memorial Center, Sand Springs, and at the Child Study Clinic, Children's Medical Center, Tulsa, and from patients referred to us from other midwest states. These families include 11 affected males and 11 carrier females (five of whom are retarded). Four of the families have more than one male affected and exhibit a typical X-linked mode of inheritance. (Figure 1) One family has one affected male and five retarded females and one family has no history of mental retardation. Five of the families are white, one is black.

The affected males have many of the facial features which have been noted by others.[5, 6] Our clinical findings are described in detail elsewhere.[7] They include prominent foreheads and supraorbital ridges, large ears, mild prognathism and normal head circumferences. (Figures 2a and b) Testicular volumes are usually enlarged in the postpubertal males. In our

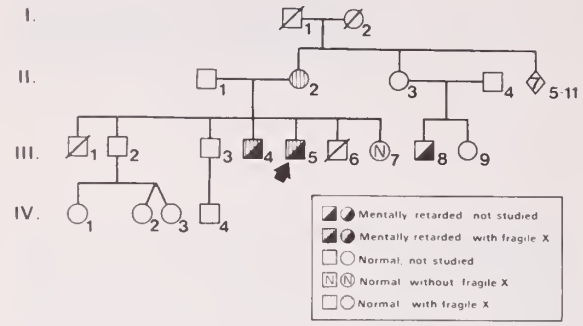


Fig 1. Pedigree of one affected family showing a typical X-linked recessive pattern of inheritance.

study, the mean volumes for four such males were 61±25.0 ml and 64.8±11.5 ml for the right and left testes, respectively, compared with a normal mean volume of 18.6±4.0 ml. Testicular enlargement, however, is usually not marked before puberty.

With regard to the level of intelligence, most of the affected males are moderately retarded but IQs may range from profound to mild levels of retardation. In our study, the males' IQs varied from 23 to 70 on the Stanford-Binet test. Verbal evaluations have shown mild articulation disabilities and marked perseveration in most males.

Routine chromosomal analyses of these males give normal results. However, when their lymphocytes are cultured in a special (folic-acid deficient) medium, an abnormality termed a "fragile site" appears as a constriction or break on the distal end of the long arm of the X chromosome (fra Xq28). (Figure 3) This abnormality is very clearly a reliable diagnostic marker for this form of MR, although its exact nature and its relationship to the clinical features are not known.

Some of the carrier females in these families have mild mental retardation but otherwise normal appearances. A recent survey has suggested that perhaps 10% of all mild MR in girls could be attributed to the carrier state of X-linked MR.[8]



Figures 2a and 2b: Two affected males. Note the prominent foreheads, supraorbital ridges, noses, and chins.

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Fig 3. A partial metaphase showing the fragile site (arrow) on the X chromosome.

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DISCUSSION

Since the first description of this X chromosome abnormality[9] and the recognition of its association with a specific form of MR and macro-orchidism,[10] there have been a number of reports attempting to further delineate the entity. For the most part, the clinical findings remain rather non-specific and, therefore, it is probably not advisable at the present time to select patients for chromosomal studies on the basis of the clinical findings.

The incidence of this disorder in the general population is not known but it is estimated to be 0.92 per 1000 males[11] making it the second most common cause of MR next to Down syndrome.[12] Because of its inherited nature, the implications to families and early diagnoses are extremely important. The recurrence risk in male offspring is 50% and 50% of the female offspring will be carriers and may or may not be mildly retarded. The recent development of methods for reliable detection of the fragile site in skin fibroblasts and amniotic fluid cells has made it possible to screen for carrier status and prenatal diagnosis.

CONCLUSION

We recommend that all mentally retarded males and mildly retarded females without somatic defects, specifically microcephaly, be studied cytogenetically for the expression of the fragile X chromosome. The recognition of this form of mental retardation is the first step to appropriate evaluation and genetic counseling of the affected families.

REFERENCES

1. Penrose, L. S. A clinical and genetic study of 1,280 cases of mental defect. Special Rep. Ser. No. 229, London, Med. Res. Council (1938).

2. Turner, G., Turner, B. X-linked mental retardation. *J. Med. Gen.* 11:109-113 (1974).

3. Lehrke, R. A theory of X-linkage of major intellectual traits. *Am. J. Ment. Defic.* 76:611-619 (1972).

4. Turner, G., Till, R., Daniel, A. Marker X chromosomes, mental retardation and macro-orchidism. *N. Engl. J. Med.* 299:1472 (1978).

5. Jacobs, P. A., Glover, T. W., Mayer, M., Fox, P., Gerrard, J. W., Dunn, H. G., Herbst. D. S. X-linked mental retardation: A study of 7 families. *Am. J. Med. Genet.* 7:471-489 (1980).

6. Turner, G., Daniel, A., Frost, M. X-linked mental retardation, macro-orchidism, and the Xq27 fragile site. *J. Pediatr.* 96:837-841 (1980).

7. Carpenter, N. J., Leichtman, L. G., Say, B. Studies on fragile X-linked mental retardation in subjects with mental retardation of unknown etiology. *Am. J. Dis. Child* (in press).

8. Turner, G., Brookwell, R., Daniel, A., Selikowitz, M., Zilibowitz, M. Heterozygous expression of X-linked mental retardation and X-chromosome marker fra (X) (q27). *N. Engl. J. Med.* 303:662-664 (1980).

9. Lubs, H. A. A marker X chromosome. *Am. J. Hum. Genet.* 21:231-234 (1969).

10. Sutherland, G. R., Ashforth, P.L.C. X-linked mental retardation with macro-orchidism and the fragile site at Xq27 or 28. *Hum. Genet.* 48:117-120 (1979).

11. Herbst, D. S., Miller, J. R. Nonspecific X-linked mental retardation II. The frequency in British Columbia. *Am. J. Med. Genet.* 7:461-469 (1980).

12. Gerald, P. S. X-linked mental retardation and an X-chromosome marker *N. Engl. J. Med.* 303:696-697 (1980).

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Leukocyte Survival in Hemodialysis Patients

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The association of in vitro leukocytic defects with chronic renal disease is a well recognized phenomenon. In an in vitro system leukocytes from patients receiving hemodialysis have a significantly shorter survival than leukocytes from healthy controls. These data may in part explain the reported functional defects observed in leukocytes from patients with chronic renal disease.

INTRODUCTION

Chronic renal disease is associated with an increased incidence of infection.[4, 7] Reasons cited for increased infection rates include: impaired delayed hypersensitivity, defective chemotaxis, defective random mobility, phagocytic defects and leukopenia following exposure to cellulosic or anisotropic polysulfone XM-50 membranes during hemodialysis.[1, 2, 5, 6, 9, 11] Evaluation of all of these phenomena is dependent on leukocyte viability. Because *in vitro* leukocyte viability studies have not been reported in chronically azotemic patients on hemodialysis, this study was designed to examine the duration of *in vitro* survival of leukocytes obtained from a group of hemodialysis patients.

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METHODS

TEST SUBJECTS. Forty-two healthy subjects from The University of Oklahoma Health Sciences Center medical and paramedical staff served as controls. Twelve were females and thirty were males; the average age was 33 years. The study group consisted of 32 patients undergoing maintenance hemodialysis treatment. Eight were females and 24 were males; the average age was 39 years. The patients had received hemodialysis from one to 67 months. Fourteen had been treated for one year or less and 18 for more than one year. The underlying diseases included: interstitial nephritis, seven; proliferative glomerulonephritis, seven; polycystic disease, five; glomerulosclerosis, four; malignant nephrosclerosis, four; chronic glomerulonephritis, three; and one each of arteriolar nephrosclerosis and lupus nephritis.

LEUKOCYTE SEPARATION. A 10 ml sample of blood was drawn aseptically by venipuncture using a 22 gauge needle affixed to a 20 ml syringe containing 100 units of heparin (Upjohn beef lung). The modified method of Braunsteiner et al, as reported by us

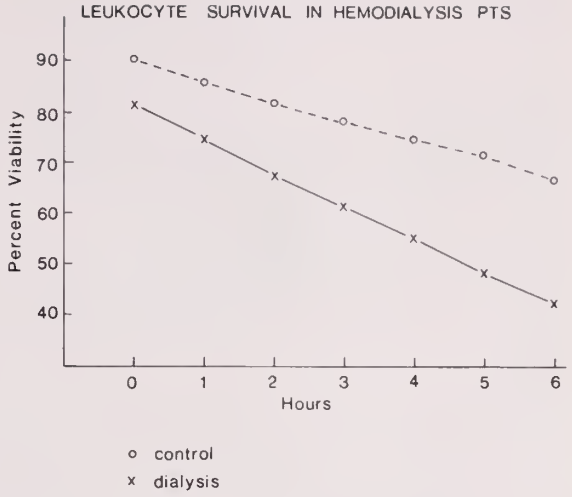
previously,[8] was used for the isolation of leukocytes from the blood sample. Four ml of 3.5% solution of polyvinylpyrrolidone (type NP-K30) in 0.9% Na Cl was added immediately to the 10 ml of heparinized blood in the 20 ml syringe.

The sampling needle was replaced with a bent sterile needle. The syringe was rotated and inverted in a 500 ml beaker with the needle pointed upward. After one hour at 4° C the needle was bent at a 45° angle and the supernatant fluid was expelled from the inverted syringe upwards into a siliconized glass tube (13 x 100 mm). The supernatant fluid contains a plasma suspension of leukocytes with little red blood cell contamination.

The leukocyte suspension was incubated at 37° C for six hours on a Cole-Parmer rotator (11 revolutions per minute). The number of viable leukocytes in the suspension was counted at the beginning and hourly for six hours in a standard hemocytometer using the Trypan blue exclusion test.[3] A 0.5 ml portion of the leukocyte suspension was then mixed with Hanks basic salt solution and incubated for three minutes. An aliquot was then removed from the leukocyte-Trypan blue suspension and placed in a hemocytometer where 100 cells

FIGURE I

LEUKOCYTE SURVIVAL IN HEMODIALYSIS PTS



were counted. The viable count was recorded as percent viable leukocytes. Each test was done in triplicate. Crossover studies performed on all subjects included washed leukocytes from the dialysis patients in serum from healthy controls, and washed leukocytes from healthy controls in serum from dialysis patients. Significance of the results was evaluated using the t test for unpaired data.

RESULTS

The results from the studies of both control subjects and patients are summarized in Figure I. The open circles represent the mean percent survival of leukocytes in the control group. The crosses (x) represent the mean percent survival of leukocytes from the dialysis patients. At zero time the difference in viable leukocytes was not great; however, at three hours when almost 80% of leukocytes from controls are still viable less than 60% of the dialysis patients' leukocytes remain viable. This difference is significant at a p value of less than 0.001. Thus, at any one instant in time fewer cells obtained from dialysis patients are viable and the overall cell death-rate is more rapid in the dialysis group. Leukocyte survival in pre- or post-dialysis blood samples does not differ significantly. The average survival of leukocytes from patients with less than one year on hemodialysis is not different from that of the cells from patients with more than one year of hemodialysis treatment.

Illustrated in Figure II are the crossover studies using washed leukocytes from dialysis patients and controls in a normal and dialysis group serum. The open circles (0) represent

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FIGURE II

LEUKOCYTE SURVIVAL IN HEMODIALYSIS PTS

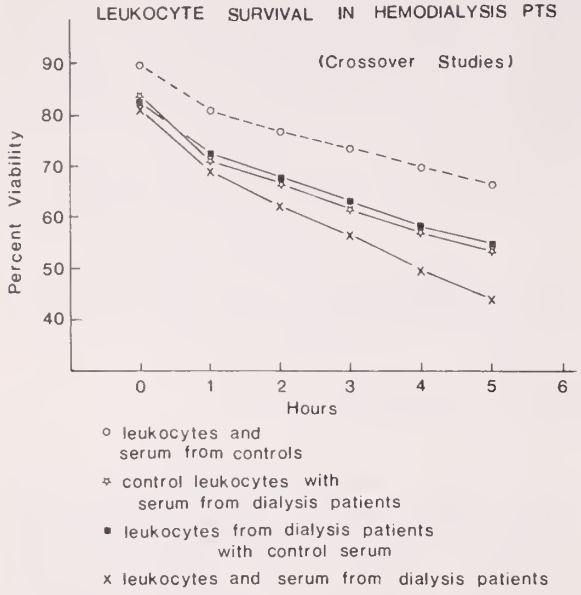
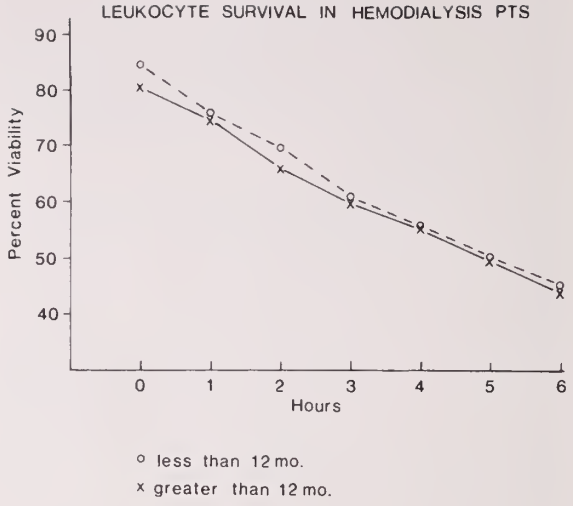


FIGURE III

LEUKOCYTE SURVIVAL IN HEMODIALYSIS PTS



control survival. The crosses (x) represent leukocyte survival of dialysis patients. The solid squares (■) represent the mean survival of washed leukocytes from dialysis patients in the presence of normal serum. The open stars (☆) demonstrate the mean leukocyte survival of leukocytes from controls in the serum of dialysis patients. The survival of leukocytes from dialysis patients in control serum and control leukocytes in dialysis patients serum is significantly ($P>0.001$) better than dialysis patient leukocytes in autologous serum. However, the crossover leukocytes remain significantly less viable than controls (p value less than 0.001 at time intervals two, three, four, five and six hours). Figure III illustrates that the survival of leukocytes from patients receiving hemodialysis for more than 12 months was no different than the survival of cells from patients treated with hemodialysis for less than 12 months. Survival of leukocytes from these patients pre- and post-dialysis treatment did not differ significantly.

DISCUSSION

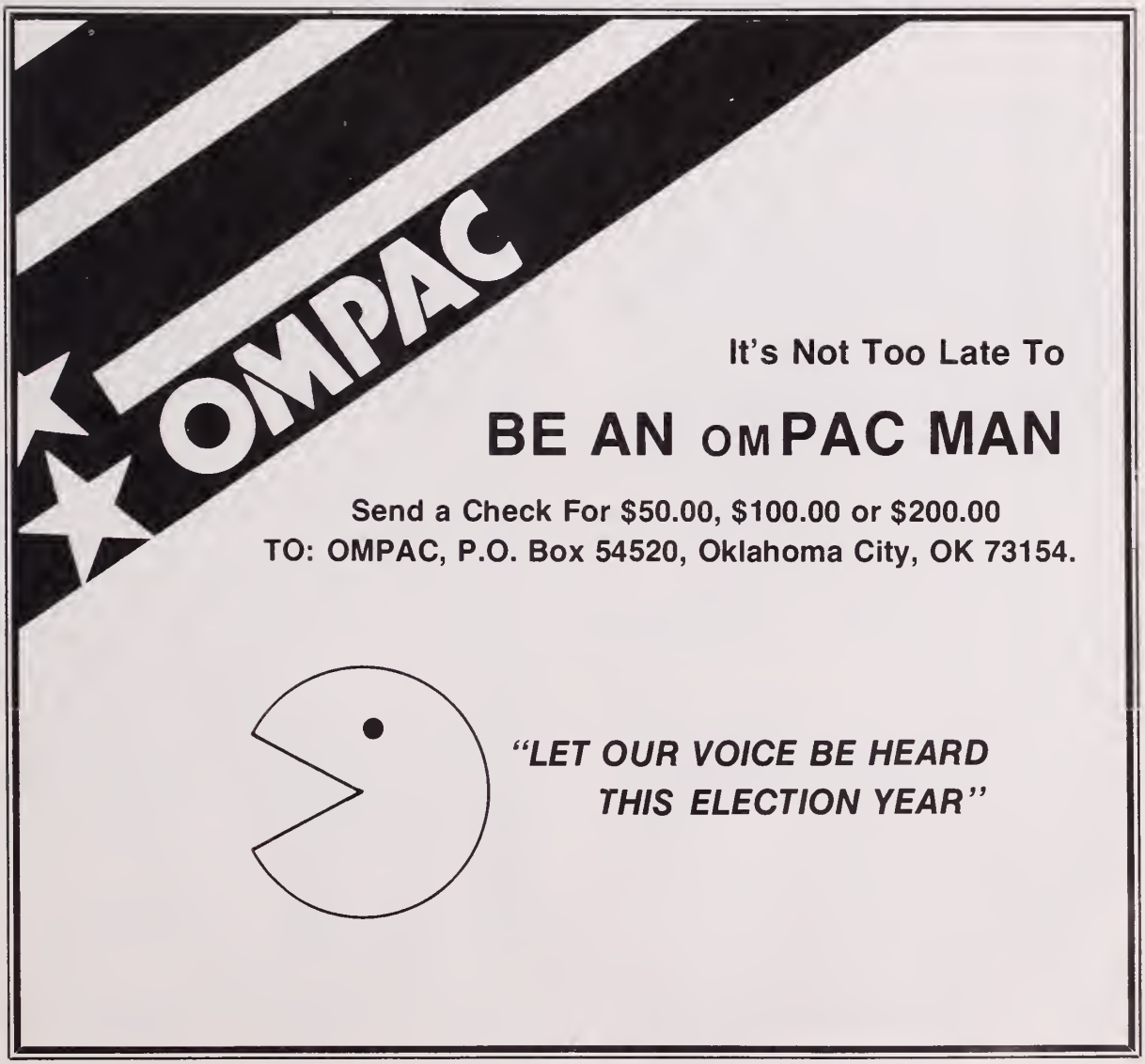
These studies were undertaken in an effort to determine if the *in vitro* survival of leukocytes from dialysis patients was different from that of control leukocytes. The data show that *in vitro,* fewer leukocytes from dialysis patients are viable at any one time and the rate of cell death is greater than for leukocytes from controls. Evidence suggests interactions occur between the leukocyte functions of phagocytosis, chemotaxis and random mobility.[10] All such leukocyte function studies depend on viable cells. If the viable leukocytes from chronic renal disease patients in dialysis programs are fewer in number and die more rapidly, as shown by the present study, then the depressed phagocytosis, chemotaxis and mobility may be in part method-dependent observations.

The mechanism for shortened leukocyte survival is unclear, but it appears to involve both a serum factor and a leukocyte defect since the serum from dialysis patients depressed survival of normal leukocytes and leukocytes from dialysis patients continue to have depressed survival in the presence of control serum. Baum[1] *et al* alluded to uremic toxins as possible causes for impairment of leukocyte functions. However, with leukocyte survival not significantly different before and after dialysis and since the washed leukocytes from dialysis patients in control serum continued to have shortened survivals, small molecular weight toxins appear an unlikely cause. This conclusion is further supported by Baum's observations showing dialysis itself had no effect on chemotaxis. Our studies on leukocyte survivals in uremic patients on hemodialysis in excess of one year versus less than one year support the studies of Sengar[10] *et al* who demonstrated that *in vitro* lymphocyte function was not different in these two groups.

REFERENCES

1. Lowrie, E. G., Lazarus, J. M., Mocelin, A J., et al: Survival of patients undergoing chronic hemodialysis and renal transplantation, *N Engl J Med* 1973, 288:863, 867.
2. Gurland, H. J., Brunner, F. P., Dehn, H. Von, et al: Combined report on regular dialysis and transplantation in Europe, 3, 1972, *Proc Eur Dial Transplant Assoc*, 1973, 10:XVII-LVII.
3. Seldin, D. W., Carter, N. W., Rector, F. C., Jr.: Consequences of renal failure and their management in diseases of the kidney 3rd ed., Edited by Strauss, M. B., Welt, L. G., Boston, Little Brown and Company, 1971, pp 237.
4. Kaplow, L. S., Goffinet, J. A.: Profound neutropenia during the early phase of hemodialysis, *JAMA* 1968, 203:1135, 1137.
5. Wilson, W. E. C., Kirkpatrick, C. H., Talmage, D. W.: Suppression of immunologic responsiveness in uremia, *Ann Intern Med*, 1965, 62:1, 14.
6. Baum, J., Cestero, RVM, Freeman, R. B. : Chemotaxis of the polymorpho-nuclear leukocyte and delayed hypersensitivity in uremia, Kidney International, 1975, *Suppl.* 2:147, 153.
7. Henderson, L. W., Miller, M. E. Hamilton, R. W., Norman, M E.. Hemodialysis leukopenia and polymorph random mobility — a possible correlation, *J Lab Clin Med*, 1975, 85:191, 197.
8. Boulton-Jones, J. M., Vick, R., Cameron, J. S., Black, P. J.: Immune responses in uremia, *Clin Nephrol*, 1973, 1:351, 360.
9. Mohr, J. A. Muchmore, H. G.: Stimulation of phagocytosis of Cryptoccus neoformans in human cryptoccal meningitis. *J. Reticuloendothelial Soc*, 1974, 15:149, 154.
10. De Renzis, F. A., Schechtman, A.: Stain technology, Edited by Langley, J. B., Baltimore, Williams & Wilkins Co., 1973, vol. 48, pp. 135, 136.
11. Sengar, D. P. S., Rashid, A., Harris, J. E.: *In Vitro* cellular immunity and *in vivo* delayed hypersensitivity in uremic patients maintained on hemodialysis, Int Arch Allergy, 1974, 47:829, 838.

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National Institutes of Health Consensus Development Conference Statement

THE DIAGNOSIS AND TREATMENT OF REYE'S SYNDROME

MARCH 2-4, 1981

A Consensus Development Conference was held at the National Institutes of Health (NIH) on March 2, 3, and 4, 1981, to address issues on the diagnostic criteria and treatment of Reye's syndrome.

At NIH, consensus development conferences bring together investigators in the biomedical sciences, practicing physicians, consumers, and advocate groups to provide a scientific assessment of technologies, including drugs, devices, and procedures, and to seek agreement on their safety and effectiveness.

On the first two days of the meeting, a consensus development panel and members of the audience reacted to evidence presented on the following questions:

- What are the key signs, symptoms, and laboratory findings of Reye's syndrome?
- What is the evidence for the effectiveness of the various treatments of Reye's syndrome?
- What are the clinical and experimental studies needed to advance our ability to diagnose and treat Reye's syndrome?

The members of the panel represented the disciplines involved in the diagnosis and treatment of those with Reye's syndrome. Panelists were nominated by seven specialty associations: the American Academy of Neurology, the American Academy of Pediatrics, the American Association of Neurological Surgeons, the American Society of Anesthesiologists, the American Academy of Family Physicians, the Child Neurology Society, and the American Nurses Association. This summary is the result of the panel's deliberations.

Reye's syndrome is a life-threatening illness that affects children of all ages, with a peak incidence between five and 15 years; on rare occasions it has been reported in adults. Although Reye's syndrome (encephalopathy with fatty degeneration of viscera) has been extensively investigated since the classic description of the disorder by Reye, Morgan, and Baral in 1963, the etiology and pathogenesis of this disease process remain obscure. The subcellular insult appears to affect mitochondria in multiple organ systems. Since prompt treatment may provide a better chance for complete recovery, early diagnosis is important.

Dissemination of information is recommended. This includes information on the early symptoms of Reye's syndrome, diagnostic criteria, and essential aspects of therapy. Such information should be distributed to parents, physicians, and nurses to facilitate early recognition, diagnosis, and treatment.

1. **What Are the Key Symptoms?**

Reye's syndrome should be suspected in a child who, during or while recovering from a viral illness (most commonly chicken pox or influenza), unexpectedly develops repetitive vomiting and altered behavior such as lethargy, confusion, irritability, or aggressiveness. Neither fever nor jaundice is usually present. In children under one year of age, respiratory disturbances such as hyperventilation or apneic episodes may be prominent. In this special group (<one year old) seizures occur more frequently than in older patients. All children with the above pattern of illness should receive prompt medical attention.

2. **What Are the Laboratory Findings in Reye's Syndrome?**

Helpful laboratory tests include the level of transaminases in serum, ammonia concentration in blood, and prothrombin activity. The activity of serum transaminases is at least three times upper normal limits, prothrombin time is usually prolonged, and blood ammonia concentration is usually elevated. Jaundice is conspicuously absent and bilirubin levels rarely are elevated. The concentration of glucose in blood is usually normal, especially in children four years of age and older. The cerebrospinal fluid (CSF) usually contains fewer than eight cells per cu mm and normal protein and glucose concentrations, except when there is concomitant hypoglycemia. Other recommended laboratory tests include determination of the concentration of glucose, calcium, and phosphorus in blood and of serum amylase activity. Serum should be analyzed for levels of salicylate and acetaminophen.

3. **Where Should a Patient Be Treated?**

It is most important that primary care practitioners be highly aware of Reye's syndrome and perform appropriate laboratory investigations promptly. Children with a history and laboratory findings suggestive of Reye's syndrome should be hospitalized for careful observation and receive glucose by intravenous infusion. Patients with Stage II (See Table 1) symptoms or worse should be cared for in a pediatric intensive care unit by a multidisciplinary team according to an established protocol, when available.

If the diagnosis of Reye's syndrome is made in a primary care setting, the physician should consult with colleagues in a pediatric intensive care center and discuss the timing of transfer. The transport team should be prepared to provide support for vital functions.

4. **What Are the Currently Used Rating or Classifying Systems for Measuring the Severity of Clinical Symptoms? How Useful Are They?**

A variety of staging systems based upon neurologic findings have been proposed for Reye's syndrome which have proven useful in assessing the severity of the illness, monitoring the effect of therapy, and predicting ultimate outcome. The multiplicity of staging systems, however, has been confusing for clinicians and researchers alike.

Table 1
Staging of Reye's Syndrome

	I	II	III	IV	V
Level of Consciousness	Lethargy; Follows Verbal Commands	Combative/ Stupor; Verbalizes Inappropriately	Coma	Coma	Coma
Posture	Normal	Normal	Decorticate	Decerebrate	Flaccid
Response to Pain	Purposeful	Purposeful/ Nonpurposeful	Decorticate	Decerebrate	None
Pupillary Reaction	Brisk	Sluggish	Sluggish	Sluggish	None

5. **Should a Uniform System Be Recommended for General Use?**

The panel reviewed a number of proposed staging systems and recommends the system outlined in Table 1 for future use in management and study of Reye's syndrome. Patients with high concentrations of ammonia in blood early in the course of disease appear to have a less favorable prognosis.

6. **When Is a Liver Biopsy Needed?**

The diagnosis of Reye's syndrome can be made in most patients without a liver biopsy, a procedure not to be undertaken lightly in an uncooperative, critically ill child with defective coagulation. The results may confuse rather than inform unless the tissue is processed and interpreted by personnel in a center with special knowledge of the illness.

Nevertheless, a carefully planned biopsy, after correction of the coagulation abnormality, carried out by physicians experienced in performance and interpretation of the results of such biopsies, can provide important information in certain specific situations. Biopsy should be considered in: (1) infants, (2) children with recurrent episodes, (3) familial cases, and (4) non-epidemic (sporadic) cases without antecedent infection or vomiting. Biopsy also increases the certainty of diagnosis and is important if a new and potentially dangerous therapeutic regimen is planned.

7. **What Other Conditions May Present With Similar Symptoms?**

There is a lengthening list of illnesses that may be temporarily misidentified as Reye's syndrome. We now recognize that transaminase elevations may occur in children with varicella without Reye's syndrome and in shock or hypoxia due to a wide variety of illnesses. Intramuscular injections (especially of a commonly used antiemetic, chlorpromazine) and protracted seizures may increase levels of transaminases in serum in a variety of diseases which affect the central nervous system. Methyl bromide, hypoglycin (senecio alkaloid), isopropyl alcohol, folk remedies (pyrrolizidine and margosa oil), aflatoxin, lead, and toxicity from some drugs (eg, aspirin, acetaminophen, and valproic acid) may produce disturbances of consciousness and elevation of serum transaminases.

When confronted by familial or recurrent occurrences of Reye-like illness, the physician should consider an inborn error of metabolism, especially systemic carnitine deficiency, glutaric acidemia, ornithine transcarbamylase deficiency, or hereditary fructose intolerance.

8. **What Special Diagnostic Tests Are Needed?**

Computerized transaxial (CT) brain scanning is neither necessary nor indicated for diagnosing Reye's syndrome unless there is clinical suspicion of a disease other than Reye's syndrome, eg, subdural hematoma, brain abscess, etc. Thus, CT scanning is not an integral part of the diagnostic evaluation of the child with Reye's syndrome. If, however, the test is done early in the course of illness, it will show a normal pattern or evidence of diffuse brain edema, with no displacement of ventricles or localized areas of enhancement.

The usefulness of electroencephalography (EEG) depends on the availability of appropriate equipment and individuals skilled in EEG interpretation. In general, the EEG has not proved to be helpful in following patients, determining prognosis, or altering treatment.

9. **What Have Been the Indications for Intracranial Pressure Monitoring? What Devices Are Available? What Are the Goals in Reducing Intracranial Pressure and When Can Monitoring Be Stopped?**

Since 1975, several reports have suggested that invasive monitoring of intracranial pressure may be useful in the management of children with Reye's syndrome. The devices in use can provide continuous measurement of pressure in the epidural, subarachnoid, or ventricular spaces. The difficulties inherent in assessing the usefulness of this procedure, employed to monitor rather than to treat, have produced conflicting opinions. Some physicians believe it improves their ability to manage patients, others do not. Mortality and morbidity directly attributable to monitoring devices appear to be low in the medical centers where they are used frequently. Data are inconclusive regarding criteria for discontinuation of such monitoring.

10. **What Are Appropriate Therapies in the Noncomatose Patient?**

Therapy for Stage I patients includes administration of dextrose-containing fluid. While there are no studies documenting that

glucose administration in excess of that provided by 5% glucose solution at maintenance rate is definitely beneficial, a number of considerations have prompted many clinicians to administer 10% dextrose solutions to these mildly affected children.

If neurologic deterioration occurs, the rate of fluid administration must be adjusted to maintain critical organ perfusion. Episodes of hypotension have been reported with maintenance rates of fluid administration following osmotic diuresis.

For many reasons, hemodynamic monitoring is important. Arterial catheters permit continuous blood pressure measurement and frequent arterial blood-gas sampling. Central venous catheters may provide useful data concerning blood volume and cardiac function, while pulmonary artery catheters (providing measurement of cardiac output) may be helpful in selected seriously ill children. While central venous catheters may be preferable in patients with normal cardiopulmonary function, the management of complicating cardiac dysfunction due to disease or drugs may make more complete monitoring necessary.

Intubation of patients with Reye's syndrome has received general acceptance, although there is disagreement as to what criteria are used to make the decision to intubate. There is agreement that intubation should be elective (ie, prior to respiratory failure or cardiac arrest). It is most often prompted by deteriorating neurologic progression toward coma and is accomplished with intravenous succinylcholine and barbiturate.

11. What Are the Important Metabolic Derangements and Are They Amenable to Treatment?

There are many documented metabolic derangements in Reye's syndrome, including hypoglycemia, hyperammonemia, hyperlactatemia, short chain fatty acidemia, hypophosphatemia, hyperaminoacidemia, azotemia, hyperuricemia, elevations of several hormones, and a mixed acid-base disorder. Accepting these well-documented findings and their relationship to the severity or treatment of the disease remain speculative. Although the degree of metabolic perturbation roughly parallels the severity of clinical illness, efforts (dialysis, amino acid infusion, phosphate and insulin infusions) to correct specific metabolic abnormalities have not clearly altered outcome.

Admnistration of vitamin K is generally accepted, although it is recognized that it is unlikely to correct fully clotting abnormalities. If significant bleeding occurs, exchange transfusion with fresh blood or administration of fresh frozen plasma may be helpful.

12. What Are the Therapies for Increased Intracranial Pressure?

While the encephalopathy of Reye's syndrome is not always associated with increased intracranial pressure, such elevations frequently complicate the care of patients in coma. In lieu of specific treatment of the encephalopathy, much effort has been directed to the control of increased intracranial pressure. Measures commonly employed include osmotherapy and spontaneous or controlled hyperventilation. Experimental measures include high-dose barbiturates, corticosteroids, cerebrospinal fluid withdrawal, and decompressive craniotomy. Use of newer techniques of monitoring and treating cerebral edema should be reserved for centers experienced in the diagnosis and management of children with severe neurologic disorders. To date, groups employing these experimental measures have failed to demonstrate better survival rates than those providing intensive supportive care.

13. What Therapies are Directed at Removal of Presumed Toxins?

Exchange transfusion, dialysis, total body "washout," charcoal hemoperfusion, and plasmapheresis have all been suggested as potentially helpful by removing an unidentified toxic substance from patients with Reye's syndrome. There is no evidence that the use of these techniques improves outcome.

14. What Are the Residual Findings?

Complete recovery may be expected in the majority of patients who survive the acute illness. However, some children who experience coma may suffer brain damage resulting in developmental delay, motor impairment, or mental retardation. Normal functioning in school may be delayed for some weeks. Children may be able to do the prescribed school work, but at a slower rate. Sometimes distractability, inattention, and memory problems occur.

Anxiety and apprehension associated with fear of bodily harm and death are frequently encountered in these children while hospitalized and following discharge from the hos-

pital. Such fears can be helped by gentle parental support. Overprotectiveness of the child by the parents can accentuate behavioral or school problems and should be avoided.

Extensive psychological and educational testing appears to be unnecessary except in a study setting. Assisting school personnel in providing learning experiences geared to the individual needs of the recovering child may be required. Family guidance and counseling may be useful and are encouraged.

15. What Are the Areas of Future Research?

Potential areas of research include: epidemiology, etiology, pathogenesis, diagnosis, management, and outcome. Most important is elucidation of the etiology and pathogenesis of this syndrome, with prevention as the ultimate goal.

EPIDEMIOLOGY

The low incidence of this disease results in small numbers of patients available for study at any single institution. The designation of a specific diagnostic code for Reye's syndrome in the International Classification of Diseases (10th Revision, Clinical Modification) would facilitate the determination of a more accurate incidence rate for Reye's syndrome.

Studies stratifying cases by age, sex, and race, by socioeconomic and environmental characteristics, and by geographic areas and location of residence (urban, suburban, rural) are needed to elucidate factors which may be important.

ETIOLOGY

Although the cause of Reye's syndrome remains unknown, an association with a recent viral infection, especially influenza B and varicella, is well-established. However, the development of Reye's syndrome following any of these viral infections is uncommon, and why only certain individuals develop the disease deserves further study. In addition, three recent population-based case-control studies have demonstrated an apparent association between salicylate usage and Reye's syndrome. Since the specific questions posed to the panel and discussed at the consensus conference were limited to diagnosis and treatment, the data on which this association is based were not presented but were discussed by several participants in the conference. Each of the three studies indicates an increase in the estimated relative risk of Reye's syndrome, which does not appear to be due to chance. However, other possible explanations of this association include the following: potential phases such as case-control selection (eg, comparability of antecedent illness), information gathering (eg, based on recall), and confounding (eg, indications for salicylate use).

Parents and physicians should be aware that most, if not all, medications have potential deleterious effects; thus, caution in the use of salicylates in children with influenza and those with varicella is prudent. Currently, the risk of these effects is unknown for salicylates or for other antipyretic medications. Since salicylates have been given to children with illnesses predisposing to Reye's syndrome without adverse effect, and cases of Reye's syndrome have occurred in which salicylates had not been administered, salicylates alone cannot be responsible for the development of Reye's syndrome. However, certain similarities between salicylism and Reye's syndrome and those studies reporting an association between Reye's syndrome and salicylate ingestion indicate a need for further carefully designed studies before recommending changes in antipyretic therapy of children.

The role of influenza and other viruses, aflatoxins, and genetic predispositions also deserve study.

DIAGNOSIS

Although guidelines for the recognition of Reye's syndrome are generally accepted, information on the validity of the many proposed screening (clinical and laboratory) tests is incomplete and based on small numbers of patients or non-uniform diagnostic criteria. Particular attention should be given to documenting the sensitivity, specificity, and predictive values associated with various tests.

MANAGEMENT AND OUTCOME

Critical and comparative evaluation of the treatment of Reye's syndrome can proceed only within the framework of a randomized controlled trial. A need exists for determining the best available monitoring procedures, seeking the most sensitive indicators of patient status while exposing the patient to the minimal risk. Evaluations of treatment and monitoring re-

gimens require strictly defined protocols and a sample size necessary for statistical analysis.

Both the short- and long-term sequelae related to Reye's syndrome should be evaluated. Subtle effects on mental and motor capabilities should be evaluated using longitudinal data analysis. When possible, evaluations should be conducted without knowledge of the patient's treatment or monitoring regimens.

The conference was sponsored by the National Institute of Neurological and Communicative Disorders and Stroke and cosponsored by the National Institute of Allergy and Infectious Diseases; the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases; the National Institute of Environmental Health Sciences; the National Institute of Child Health and Human Development; and the Division of Research Resources. Collaborating agencies included the Centers for Disease Control and the National Center for Health Statistics. Assistance was provided by the Office for Medical Applicaions of Research, NIH.

A bibliography on Reye's syndrome is available from the Office for Medical Applications of Research, Building 1, Room 216, NIH, Bethesda, Maryland 20205. This bibliography was prepared by the Developmental Neurology Branch, National Institute of Neurological and Communicative Disorders and Stroke.

A list of the members of the Consensus Development Panel is available from *The Journal, Oklahoma State Medical Association*, 601 NW Expressway, Oklahoma City, OK 73118.

OSMA

THE OKLAHOMA STATE MEDICAL ASSOCIATION
75th ANNIVERSARY
1906 1981

MEDICAL DIRECTORY

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Immuno-Augmentative Therapy Use in Oklahoma

On March 2, 1982, legislation was approved allowing "immuno-augmentative therapy" to treat any malignancy, disease, illness, or physical condition.

This act, the first of its kind in the nation, also prohibits disciplinary action or liability against physicians, hospitals, or other institutions for use of the therapy; prescribes a written consent form which must be used; authorizes regulatory power over the product by the State Board of Health, and provides for followup of patients receiving the therapy.

The US Food and Drug Administration has advised state health officials that in 1974 the Bureau of Biologics received an application from Dr Lawrence Burton, an experimental zoologist with a doctoral degree from New York University, seeking to initiate human experimentation with immuno-augmentative therapy. The FDA posed a number of questions concerning the technique, and approval of clinical studies has been withheld pending satisfactory answers to those questions.

Attempts by the National Cancer Institute to obtain a specimen for analysis of the serum used in this therapy have been unsuccessful, and the NCI's position is that there is no basis for evaluation of the therapy and no evidence that it is effective against cancer. The FDA, American Cancer Society, and American Medical Association have taken similar positions.

The State Department of Health has requested from Burton full information concerning his technique so that appropriate rules and regulations concerning serum production, packaging, and distribution can be developed. The Board of Health is charged with licensure of Oklahoma manufacturers of the product.

This information is provided in the event patients seek information from private physicians concerning the therapy. □

News From The Oklahoma State Department of Health

COMMUNICABLE DISEASES IN OKLAHOMA FOR FEBRUARY 1982

DISEASE	February 1982	February 1981	January 1982	Total To Date	
				1982	1981
Amebiasis	2	—	—	2	—
Aseptic Meningitis	3	2	4	7	4
Brucellosis	1	—	—	1	—
Encephalitis, Infectious	4	3	1	5	4
Gonorrhea (Use Form ODH-228)	1144	1107	1255	2399	2380
Hepatitis A	51	31	16	67	47
Hepatitis B	22	23	10	32	33
Hepatitis Unspecified	35	13	8	43	26
Malaria	—	1	—	—	1
Measles (Rubeola)	—	2	—	—	2
Meningococcal Infections	3	6	3	6	6
Pertussis	1	1	—	1	1
Rabies (Animal)	10	12	14	24	23
Rocky Mountain Spotted Fever	—	—	—	—	—
Rubella	1	—	—	1	—
Salmonellosis	12	17	13	25	42
Shigellosis	33	16	31	64	24
Syphilis (Use Form ODH-228)	14	9	16	30	23
Tetanus	—	—	—	—	—
Tuberculosis	40	13	26	66	42
Tularemia	—	—	—	—	—
Typhoid Fever	2	1	1	3	3

Dr John McIntyre of Enid Is New President of OSMA



John A. McIntyre, MD, of Enid, is the new president of the Oklahoma State Medical Association. He succeeds James B. Pitts, MD, of Oklahoma City, who served as 1981-82 president of OSMA.

Dr McIntyre established his internal medicine practice in Enid in 1947. He received his MD from the University of Oklahoma School of Medicine in 1943 and took his residency in internal medicine at Cedar Rapids, Iowa, during 1946-47. From 1943 to 1946 Dr McIntyre served in the US Navy.

Dr McIntyre has been a member of the OSMA Board of Trustees for six years and served as chairman of the board from 1974 to 1976. From 1975 to 1981 he was a member of the board of the Oklahoma Foundation for Peer Review, and from 1979 to 1981 he was president of the board. Dr McIntyre currently serves on the Board of Directors of the Physicians Liability Insurance Company (PLICO).

He is married to Catherine Defenbaugh McIntyre and has two children, Dennis McIntyre, MD, of Enid, and Mary Lutz, of Ponca City. Dr McIntyre is a member of the Kiwanis Club and an elder in the Presbyterian Church. □

Board Acts on TCMS Resolution, Medical Exhibit, Endowment Fund

The OSMA Board of Trustees considered a number of important issues at its March meeting, including a resolution on utilization review for county medical society business/medicine coalitions, a proposal to establish a permanent OSMA medical exhibit at the University of Oklahoma Health Sciences Center Library, and a recommendation by the Council on Medical Education for Disposition of the OSMA Endowment Fund.

The resolution on utilization review was submitted by the Tulsa County Medical Society (TCMS), which, in cooperation with nineteen industrial and business firms, has established the Tulsa Business/Medicine Coalition. It called for the Board of Trustees to support the concept of Oklahoma Foundation for Peer Review providing utilization review on a private basis for business/medicine coalitions such as the one formed by TCMS. It also asked the board to recommend that the OSMA House of Delegates endorse the concept.

Following a lengthy discussion, the board agreed to an amendment that calls on the House of Delegates to consider, rather than endorse, the concept. The board then voted to approve the amended resolution.

The board also voted to approve the medical exhibit proposal to establish a permanent public display in the Health Sciences Center (HSC) library of the medical artifacts and documents formerly on display in the lobby of OSMA headquarters. The artifacts and documents represent the early days of organized medicine in Oklahoma.

Because access to the display was limited and because professional care and preservation of the artifacts could not be assured, the board was asked to approve the transfer of the collection to the library. There, the items would be cataloged, cared for properly, and put on public view. OSMA would be clearly identified as the donator of the display, and individual items would be tagged with the names of donors, if known. The association plans to solicit additional items from members for the library display.

Acting on a directive issued at the November board meeting, the Council on Medical Education submitted a recommendation for disposition of the funds donated to endow a chair in graduate medical education at the University of Oklahoma. Contributions to the fund totaled $110,000, far short of the goal of $750,000 required to endow the chair. The board agreed in November that donors should be offered their money back. The Council on Medical Education was directed to recommend alternative uses for the fund. The board approved the

council's recommendation, which provides donors with two alternatives if they choose not to have their money returned:

1. The fund would be transferred to an interest-bearing account, and the interest would be used each year to finance the scientific program of the OSMA annual meeting.

2. The fund would be used to establish a professorship in diabetes at the University of Oklahoma. Matching funds would be provided by the Endocrinology, Metabolism, and Hypertension Section, and the total then would be matched by the Diabetes Foundation.

Donors who choose not to have their money returned will be informed that all money remaining in the fund will be allocated to the alternative receiving the most support.

In other actions the board:

- instructed Oklahoma's delegation to the American Medical Association to present a resolution saluting the Diamond Jubilee of the OSMA Auxiliary, the nation's first medical auxiliary
- directed OSMA to prepare a press release stating the association's position on immunoaugmentative therapy, to be released at the discretion of the OSMA president.
- authorized OSMA employees to join the Medical Center Credit Union
- approved OSMA Life Memberships for fourteen association members
- approved expenditure of approximately $10,000 of authorized funds for capital improvements to the OSMA headquarters building. □

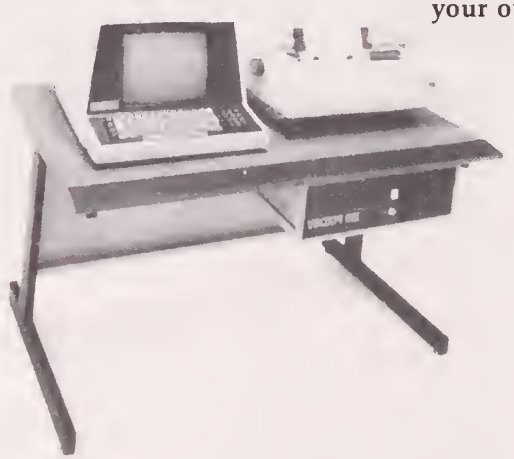
Fourteen Physicians Elected To Life Memberships in OSMA

Fourteen Oklahoma physicians were elected to OSMA Life Membership at the March 6 meeting of the OSMA Board of Trustees.

The new Life Members are: F. C. Buffington, MD, Phil Haddock, MD, and Orville Tackett, MD, all of Norman; John A. Brasfield, MD, Murray M. Cash, MD, Nevin W. Dodd, MD, Vance Lucas, MD, Hugh B. Nicholas, MD, and William A. Waters, MD, all of Tulsa; James S. Petty, MD, Jack L. Riggall, MD, and James R. Riggall, MD, all of Oklahoma City; Joseph R. Henke, MD, of Guthrie; and George Stevens, MD, of Ada. □

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TMC Names Walls New Chairman of Family Practice Department



Dr Leslie L. Walls, former associate professor at Northeastern Oklahoma State University in Tahlequah, has been named chairman of the Department of Family Practice at the University of Oklahoma Tulsa Medical College (TMC).

Dr Walls was an associate professor of family practice at TMC during 1977-78. He was named chairman of the Department of Family Medicine at Oral Roberts University School of Medicine in 1978 and joined the faculty at Northeastern Oklahoma State in 1979. He also had a private family medicine practice in Tahlequah.

Dr Walls received his undergraduate degree from the University of California at Berkeley and his medical degree from the University of California at Davis. He completed residency training at Akron General Medical Center in Akron, Ohio, and was co-director of the family practice residency at Aultman Hospital in Canton, Ohio, from 1975 to 1977.

The appointment of Dr Walls fills a vacancy created by the death last June of department chairman Dr Roger C. Good. □

Physicians and Public Asked About Key Health Care Issues

Results are now available from recent surveys assessing physician and public attitudes toward several health care issues — competition in the health care sector, changes in the organization of physician practice, and employer-provided health insurance options.

Competition in the health care sector. Some analysts believe that competition among physicians is increasing. Physician responses to a survey conducted by Market Opinion Research addressed this issue. Thirty-three percent of physician respondents feel that there are too many doctors in their community. Only 11% believe there are too few physicians, while 52% indicate that the current number is about right.

In contrast, only 10% of public respondents in a Gallup Organization poll think there are too many doctors in their community, while 38% feel there are too few physicians.

Physicians in demographic categories that have grown the fastest in the last decade are most likely to report that there are too many physicians in their community. These include:

- physicians under 30 years of age vs all other ages
- physicians residing in the western United States vs all other areas
- physicians in medical specialties vs all other specialties.

In terms of competition from emerging forms of medical practice, physicians indicate that there is substantially more growth in hospital outpatient services than in any other forms of medical practice, including health maintenance organizations (HMOs) and independent physician associations (IPAs).

Changing organization of physician practice. Physician acceptance has been a major issue in the growth of new practice forms. The following results suggest that acceptance is increasing.

- Almost one-fourth of physician respondents engaged in traditional forms of practice say that, if asked, they would consider joining an HMO/IPA in the future.
- Physicians perceive a major difference in the effects of HMOs vs IPAs on many aspects of practice. This suggests that these two types of physician organization should not be considered identical or even highly similar in the ways they may influence health care delivery.

Employer-provided health insurance options. Surveys conducted by Market Opinion Research and the Gallup Organization assessed physician and public reaction to proposed changes in health insurance programs. Physician and public opinion on four health insurance proposals coincided, indicating support for:

- a choice of plans offered by employers
- a choice of plans with a catastrophic minimum
- a choice of plans with a rebate option.

However, both physicians and the public strongly reject a limit on premiums that employers can deduct as a business expense. □

MEDICAL-LEGAL SEMINARS

1982 SCHEDULE

May 12	Medical Office Management	Joplin, MO
June 22	Telephone Collecting	Wichita Falls, TX
June 23	Medical Office Management	Wichita Falls, TX
July 14	Medical Office Management	McAlester
July 28	Medical Office Management	Enid
July 30	Medical Office Management	Woodward
Aug. 4	Medical Office Management	Oklahoma City
August 5	Medical Office Management	Ardmore
August 17	Medical Office Management	Bartlesville
August 19	Medical Office Management	Tulsa
August 26	Medical Office Management	Lawton
August 31	Medical Office Management	Muskogee
September 29	Medical Record Law	Oklahoma City

SUMMER TOUR

July 17-24	Cancun, Mexico	7 Day Tour
	($399 Per Person, Double Occupancy)	5 Day Seminar



For registration information write:
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5131 Classen Blvd., Suite 212
Oklahoma City, OK 73118

Deaths

FRANCES P. NEWLIN, MD
1897-1982

Frances P. Newlin, MD, former Vice-President of the Oklahoma State Medical Association, died February 16, 1982. Dr. Newlin was a retired, Shawnee general practitioner. She was graduated from the University of Oklahoma College of Medicine in 1921 and established her practice in Shawnee in 1929. She was a Life Member of the OSMA.

JOSEPH F. MESSENBAUGH, MD
1911-1982

Retired Oklahoma City surgeon, Joseph F. Messenbaugh, MD, died March 12, 1982. Dr Messenbaugh was graduated from the University of Oklahoma College of Medicine in 1933, where he later became professor of surgery . His practice was established in Oklahoma City and in 1975 he was awarded the title of professor emeritus of surgery by his school of graduation. He was a member of the American College of Surgeons, Southwest Surgical Congress and a Life Member of the Oklahoma State Medical Association. □

IN MEMORIAM

1981	
Gilbert L. Hyroop, MD	*April 15*
Leo A. Myers, MD	*April 19*
J. Holland Howe, MD	*April 20*
Harold M. McClure, MD	*April 27*
Sam W. Hendrix, MD	*May 12*
Roger C. Good, MD	*June 16*
Frederick G. Dorwart, MD	*June 16*
Joseph W. Kelso, MD	*June 18*
Rufus K. Goodwin, MD	*June 25*
Orville C. Armstrong, MD	*July 9*
Charles F. Paramore, MD	*July 10*
James D. Reynard, MD	*July 21*
Mark R. Everett, PhD	*August 17*
Khalil Ahmad, MD	*August 22*
M. H. Haskell, MD	*August 30*
C. F. Foster, Jr., MD	*October 11*
E. E. Shircliff, MD	*October 23*
S. N. Stone, Jr., MD	*November 9*
James R. Barnes, MD	*December 13*
E. Rankin Denny, MD	*December 16*
John P. Grimes, MD	*December 24*
1982	
James T. Maddox, MD	*February 21*
Frances P. Newlin, MD	*February 16*
Joseph F. Messenbaugh, MD	*March 12*

□

Free-living Form of Cholera May Be Endemic to Gulf Coast

Cholera has made a reappearance in the low-lying coastal areas near the Gulf of Mexico, raising concern that the causative bacteria may be endemic to this region of the country.

Sporadic cases of cholera have been reported in Texas and Louisiana since 1973, after a sixty-year hiatus, according to an account of two recent cases in the *Journal of the American Medical Association.*

A team of investigators, headed by Michael T. Kelly, MD, of the University of Texas Medical Branch at Galveston, found that water and mud samples taken from the area where the two Texas patients lived contained the offending organisms.

Even though both patients had been exposed to the water, the investigators could not say with absolute certainly that it was the source of the patients' infection. Most of the other recent cases of cholera in the Unites States have been associated with the consumption of raw oysters and inadequately cooked crabs, presumably taken from water supplies contaminated by sewage.

The findings in the Texas cases support the suggestion that the bacteria responsible for cholera may be capable of existing and multiplying in the Gulf Coast environment in a free-living form. If so, this means that cholera can be contracted directly from water sources in certain Texas coastal regions. □

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Physicians are high-achieving professional breadwinners and can be compared to "money machines". But, they are also human beings, who because of their profession, have a greater than average understanding of the prospects of unexpected accidents and illnesses which can impair or destroy their income producing ability.

Through the Oklahoma State Medical Association Group Disability Program, you have the opportunity to obtain assurance of uninterrupted income if your health should fail.

Three plans are available. Plan L-65 pays accident benefits for lifetime. Sickness benefits are payable to age 65, or for a 2-year maximum period if disability begins between ages 63 and 70. Benefits are payable for 10 years based on being unable to perform every duty of your occupation; thereafter, based on being unable to perform the duties of any gainful occupation for which you are reasonably fitted.

Semi Annual Premium — Benefit payable after 8 days for sickness, first day for accidents.

Plan L-65



WEEKLY INDEMNITY	UNDER AGE 30	AGE 30-39	AGE 40-49	AGE 50-59	AGE 60-69
$500.00	$301.50	$346.50	$476.50	$641.50	$418.50*
400.00	241.50	277.50	381.50	513.50	418.50*
300.00	181.50	208.50	286.50	385.50	418.50
200.00	121.50	139.50	191.50	257.50	279.50
100.00	61.50	70.50	96.50	129.50	140.50

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New OSMA Public Service Spots Focus on Diets and Medications

Two new public service announcements (PSAs) developed by OSMA are bringing the public important messages about sensible dieting and prescription medicines.

The 30-second PSAs are now being shown on television stations throughout the state. Humor was incorporated into the messages in order to capture audience attention with an entertaining presentation.

As the sensible dieting spot opens, a magician appears in a puff of smoke while an announcer intones, "You won't lose weight with a lot of hocus-pocus." With the help of an assistant, the magician proceeds to materialize a calorie-counting book and nutritional, low-calorie foods. "The secret is to count calories," the announcer says, "and the challenge is to eat properly." With a flash, the magician then appears on a treadmill in his jogging suit as the announcer concludes, "The trick is to exercise regularly."

The message points out that there is no magic formula for weight loss and encourages the audience to seek medical advice if they have questions about dieting.

In the prescription medicines spot, a split-screen format and two contrasting characters illustrate the right way and the wrong way to take prescription medicines. A very neat and proper woman follows her doctor's instructions carefully and takes the correct dosage of her medicine, while her neighbor, a rather slovenly man, gobbles pills indiscriminately and gulps medicine from a bottle. The announcer makes several important points: "Take the dosage your doctor recommends for as long as your doctor says"; "Don't mix old prescriptions with new ones"; "Always make sure your doctor knows about all other medicines you are taking."

In the final scene, the "wrong-way" patient breaks through the wall to reach for his neighbor's medicine, only to have his hand

slapped as the announcer makes the point, "Never use someone else's medicine." The message concludes by advising the audience that following the doctor's instructions is the best way to get well and stay well.

Both of the new public service announcements were produced by Jordan Associates, the firm responsible for five other highly successful OSMA public service messages produced over the past few years. □

PLICO Health Members Top Goal As Open Enrollment Is Extended

Enrollment continues to increase dramatically in PLICO Health, the OSMA-owned health insurance program for association members, their families, and their employees and dependents. Nearly 7,000 persons have subscribed to the policy since February 1.

"The response has been sensational," said C. Alton Brown, MD, president of the company. "Our initial goal was 4,000 enrollees, enough to assure us of financial integrity. With nearly twice that number enrolled, we are confident of a successful insurance operation."

The establishment of PLICO Health was authorized by the OSMA Board of Trustees in November 1981. The company was organized because of escalating premiums in commercial insurance markets and because coverage offered to many OSMA members was unduly restrictive.

The PLICO plan includes a special "wellness bonus" and offers physicians the opportunity to disprove the insurance industry's contention that physicians and their families overutilize medical services.

On March 21, the PLICO Board of Directors approved the extension of the PLICO open enrollment period to July 1 of this year. This means that persons who enroll in PLICO by that date will not be required to show evidence of insurability. This provision applies even though coverage under PLICO may begin at a later date. Anyone enrolling after July 1 will be required to provide evidence of insurability.

The PLICO board also heard a report on the company's progress from Eugene Feild, MD, who has been appointed by Dr Brown to head a committee that will monitor and review the activities of PLICO Health. □

Cost Effectiveness Projects To Be Tested in 75 Hospitals

Seventy-five hospitals throughout the United States will serve as demonstration sites to evaluate and implement a limited number of clinical-administrative cost effectiveness projects in the American Medical Association's new Cost Effectiveness Evaluation Network.

The primary purpose of the network is to develop and test practical cost effectiveness activities in hospitals. For each successful cost effectiveness activity, the network will develop a project implementation kit to be made available to other hospitals interested in the project activity findings.

The network is supervised by the AMA Council on Medical Services Subcommittee on Cost Effectiveness. Representatives of the American Hospital Association and the Federation of American Hospitals will participate in subcommittee discussions. □

Commission Seeks Lead on Drugs For Treatment of Rare Diseases

The Pharmaceutical Manufacturers Association (PMA) Commission on Drugs for Rare Diseases is conducting a search for information on "orphan" drugs and devices—those that have potential for treating rare diseases but are not generally available to practicing physicians or to patients.

The commission has mailed 3,000 brochures on the project to research institutions, voluntary health organizations, firms, and government agencies, inviting submission of information or research leads on promising compounds.

Each submission will be evaluated by the commission, and those found to have promise will be brought to the attention of potential sponsors, including pharmaceutical firms, for possible additional research and commercial development.

The commission is made up of seven senior research executives from the pharmaceutical industry. Commission meetings are attended by representatives from the Food and Drug Administration, National Institutes of Health, and Centers for Disease Control.

Brochures explaining the project may be obtained from the PMA Commission on Drugs for Rare Diseases, 1155 15th Street, NW, Washington, DC 20005. □



HEALTH

FOUR MILLION DOLLARS WORTH OF CONFIDENCE!

In just two months, over *1,500 members* of the Oklahoma State Medical Association and about *3,000 physicians' employees* have made the health insurance switch to *PLICO HEALTH* — the company they know and trust. When their insured family members are considered, PLICO now *protects over 9,000 persons* within Oklahoma's medical community.

The total yearly premium generated by this overwhelming vote of confidence now exceeds *$4,000,000*. A real boost to PLICO's high-participation goal — and a collective annual savings to our supporters of more than $1,000,000. (That's about how much the monthly premiums of *PLICO HEALTH* cut below those of our competitors.)

And each day's mail brings with it a substantial new infusion of enrollment cards. *PLICO HEALTH'S instant stature is an unprecedented success story — and our steady growth rate holds promise of an even brighter place in the Oklahoma sun.*

PLICO is enduringly committed to the objective of providing the broadest of policy benefits at the lowest possible cost. And we're strong on "fair play" too. (We look for ways to pay claims — not to deny them.)

If you're a *PLICO HEALTH* convert — *THANKS!* If not, please give our friendly sales staff a call — an attractive premium quotation will be prepared for your office and any questions you may have will be expertly answered.

More good news! The deadline for enrolling in *PLICO HEALTH* without evidence of insurability has been extended to **July 1st.**

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Miscellaneous Advertisements

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INDICATIONS: *Therapeutically* (as an adjunct to systemic therapy when indicated), for topical infections, primary or secondary, due to susceptible organisms, as in: • infected burns, skin grafts, surgical incisions, otitis externa • primary pyodermas (impetigo, ecthyma, sycosis vulgaris, paronychia) • secondarily infected dermatoses (eczema, herpes, and seborrheic dermatitis) • traumatic lesions, inflamed or suppurating as a result of bacterial infection. *Prophylactically*, the ointment may be used to prevent bacterial contamination in burns, skin grafts, incisions, and other clean lesions. For abrasions, minor cuts and wounds accidentally incurred, its use may prevent the development of infection and permit wound healing.

CONTRAINDICATIONS: Not for use in the eyes or in the external ear canal if the eardrum is perforated. This product is contraindicated in those individuals who have shown hypersensitivity to any of its components.

WARNING: Because of the potential hazard of nephrotoxicity and ototoxicity due to neomycin, care should be exercised when using this product in treating extensive burns, trophic ulceration and other extensive conditions where absorption of neomycin is possible. In burns where more than 20 percent of the body surface is affected, especially if the patient has impaired renal function or is receiving other aminoglycoside antibiotics concurrently, not more than one application a day is recommended.

When using neomycin-containing products to control secondary infection in the chronic dermatoses, it should be borne in mind that the skin is more liable to become sensitized to many substances, including neomycin. The manifestation of sensitization to neomycin is usually a low grade reddening with swelling, dry scaling and itching; it may be manifest simply as a failure to heal. During long-term use of neomycin-containing products, periodic examination for such signs is advisable and the patient should be told to discontinue the product if they are observed. These symptoms regress quickly on withdrawing the medication. Neomycin-containing applications should be avoided for that patient thereafter.

PRECAUTIONS: As with other antibacterial preparations, prolonged use may result in overgrowth of nonsusceptible organisms, including fungi. Appropriate measures should be taken if this occurs.

ADVERSE REACTIONS: Neomycin is a not uncommon cutaneous sensitizer. Articles in the current literature indicate an increase in the prevalence of persons allergic to neomycin. Ototoxicity and nephrotoxicity have been reported (see Warning section).

Complete literature available on request from Professional Services Dept. PML.

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10,000,000 alcoholics. Ethanol may produce many effects that together bring about nutritional deficiencies, so that alcoholism affects nutrition at many levels.[1]

25,500,000 geriatric patients. The older patient may have some disorder or socio-economic problem that can undermine good nutrition.[2]

23,500,000 surgica patients. Nutritional statu can be compromised by the trauma of surgery; and some operations interfere with the ingestion, digestion and absorption of food.[3]



Before prescribing, please consult complete product information, a summary of which follows:
Each Berocca® Plus tablet contains 5000 IU vitamin A (as vitamin A acetate), 30 IU vitamin E (as *dl*-alpha tocopheryl acetate), 500 mg vitamin C (ascorbic acid), 20 mg vitamin B_1 (as thiamine mononitrate), 20 mg vitamin B_2 (riboflavin), 100 mg niacin (as niacinamide), 25 mg vitamin B_6 (as pyridoxine HCl), 0.15 mg biotin, 25 mg pantothenic acid (as calcium pantothenate), 0.8 mg folic acid, 50 mcg vitamin B_{12} (cyanocobalamin), 27 mg iron (as ferrous fumarate), 0.1 mg chromium (as chromium nitrate), 50 mg magnesium (as magnesium oxide), 5 mg manganese (as manganese dioxide), 3 mg copper (as cupric oxide), 22.5 mg zinc (as zinc oxide).

Indications: Prophylactic or therapeutic nutritional supplementation in physiologically stressful conditions, including conditions causing depletion, or reduced absorption or bioavailability of essential vitamins and minerals; certain conditions resulting from severe B-vitamin or ascorbic acid deficiency; or conditions resulting in increased needs for essential vitamins and minerals.
Contraindications: Hypersensitivity to any component.
Warnings: Not for pernicious anemia or other megaloblastic anemias where vitamin B_{12} is deficient. Neurologic involvement may develop or progress, despite temporary remission of anemia, in patients with vitamin B_{12} deficiency who receive supplemental folic acid and who are inadequately treated with B_{12}.
Precautions: *General:* Certain conditions may require additional nutritional supplementation. During pregnancy, supplementation with vitamin D and calcium may be required. Not intended for treatment of severe specific deficiencies. *Information for the Patient:* Toxic reactions have been reported with injudicious use of certain vitamins and minerals. Urge patients to follow specific dosage instructions. Keep out of reach of children. *Drug and Treatment Interactions:* As little as 5 mg pyridoxine daily can decrease the efficacy of levodopa in the treatment of parkinsonism. Not recommended for patients undergoing such therapy.
Adverse Reactions: Adverse reactions ha been reported with specific vitamins and

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5,000,000 hospital patients with infections.[4] Many are anorectic and may have a markedly reduced food intake. Supplements are often provided as a prudent measure because the vitamin status of critically ill patients cannot be readily determined.[3]

The incalculable millions on calorie-reduced diets. Patients ingesting 1000 or fewer calories per day could be at high risk because this intake may not supply most nutrients in adequate amounts without supplementation.[5]



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Berocca Plus, highly acceptable to patients, has virtually no odor or aftertaste and is economical. And its "Rx only" status means more physician involvement, better patient compliance.

References: 1. Shaw S, Lieber CS: Nutrition and alcoholism, chap. 40, in *Modern Nutrition in Health and Disease*, edited by Goodhart RS, Shils ME. Philadelphia, Lea & Febiger, 1980, pp. 1220, 1237. 2. Watkin DM: Nutrition for the aging and the aged, chap. 28, in *Modern Nutrition in Health and Disease, op. cit.*, p. 781. 3. Shils ME, Randall HT: Diet and nutrition in the care of the surgical patient, chap. 36, in *Modern Nutrition in Health and Disease, op. cit.*, pp. 1084, 1089, 1114. 4. Dixon RE: *Ann Intern Med 89* (Part 2): 749-753, Nov 1978. 5. Committee on Dietary Allowances, National Research Council: Recommended Dietary Allowances, ed 9. Washington, National Academy of Sciences, 1980, p. 13.

minerals, but generally at levels substantially higher than those in Berocca Plus. However, allergic and idiosyncratic reactions are possible at lower levels. Iron, even at the usual recommended levels, has been associated with gastrointestinal intolerance in some patients.

Dosage and Administration: Usual adult dosage: one tablet daily. Not recommended for children. Available on prescription only.

How Supplied: Golden yellow, capsule-shaped tablets—bottles of 100.

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An added complication... in the treatment of bacterial bronchitis*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor
Pulvules®, 250 and 500 mg

Brief Summary.
Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae,* and *S. pyogenes* (group A beta-hemolytic streptococci)

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coomb testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Usage in Pregnancy – Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy – Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: Adverse effects considered related to cefaclor therapy are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Ceclor.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor® (cefaclor). Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain – Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic – Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic – Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal – Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). (100281R)

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

References

1. Antimicrob. Agents Chemother., *8*:91, 1975
2. Antimicrob. Agents Chemother., *11*:470, 1977
3. Antimicrob. Agents Chemother., *13*:584, 1978
4. Antimicrob. Agents Chemother., *12*:490, 1977
5. Current Chemotherapy (edited by W. Siegenthaler and R. Luthy), II:880. Washington, D.C.: American Society for Microbiology, 1978.
6. Antimicrob. Agents Chemother., *13*:861, 1978
7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p. 487. New York: John Wiley & Sons, 1979.

Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285

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ONE FOR ALL – One tablet treats pinworm in any patient, regardless of age or body weight.* Obviates need to calculate individual dosages.

A single tablet eradicates pinworm in 95% of patients.

*Contraindicated in pregnant women and in persons who have shown hypersensitivity to the drug.

VERMOX® CHEWABLE TABLETS
(mebendazole)

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Please see complete Prescribing Information on adjacent page.

VERMOX® CHEWABLE TABLETS (mebendazole)

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Vermox
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member



DESCRIPTION VERMOX (mebendazole) is methyl 5-benzoylbenzimidazole-2-carbamate.

ACTIONS VERMOX exerts its anthelmintic effect by blocking glucose uptake by the susceptible helminths, thereby depleting the energy level until it becomes inadequate for survival. In man, approximately 2% of administered mebendazole is excreted in urine as unchanged drug or a primary metabolite. Following administration of 100 mg of mebendazole twice daily for three consecutive days, plasma levels of mebendazole and its primary metabolite, the 2-amine, never exceeded 0.03 μg/ml and 0.09 μg/ml, respectively.

INDICATIONS VERMOX is indicated for the treatment of *Trichuris trichiura* (whipworm), *Enterobius vermicularis* (pinworm), *Ascaris lumbricoides* (common roundworm), *Ancylostoma duodenale* (common hookworm), *Necator americanus* (American hookworm) in single or mixed infections. Efficacy varies as a function of such factors as pre-existing diarrhea and gastrointestinal transit time, degree of infection and helminth strains. Efficacy rates derived from various studies are shown in the table below:

	Whipworm	Common Roundworm	Hookworm	Pinworm
cure rates				
mean	68%	98%	96%	95%
(range)	(61-75%)	(91-100%)	–	(90-100%)
egg reduction				
mean	93%	99.7%	99.9%	–
(range)	(70-99%)	(99.5%-100%)	–	–

CONTRAINDICATIONS VERMOX is contraindicated in pregnant women (see Pregnancy Precautions) and in persons who have shown hypersensitivity to the drug.

PRECAUTIONS *PREGNANCY:* VERMOX has shown embryotoxic and teratogenic activity in pregnant rats at single oral doses as low as 10 mg/kg. Since VERMOX may have a risk of producing fetal damage if administered during pregnancy, it is contraindicated in pregnant women.

PEDIATRIC USE: The drug has not been extensively studied in children under two years; therefore, in the treatment of children under two years the relative benefit/risk should be considered.

ADVERSE REACTIONS Transient symptoms of abdominal pain and diarrhea have occurred in cases of massive infection and expulsion of worms.

DOSAGE AND ADMINISTRATION The same dosage schedule applies to children and adults. The tablet may be chewed, swallowed or crushed and mixed with food. For the control of pinworm (enterobiasis), a single tablet is administered orally, one time. For the control of common roundworm (ascariasis), whipworm (trichuriasis), and hookworm infection, one tablet of VERMOX is administered, orally, morning and evening, on three consecutive days. If the patient is not cured three weeks after treatment, a second course of treatment is advised. No special procedures, such as fasting or purging, are required.

HOW SUPPLIED VERMOX is available as chewable tablets, each containing 100 mg of mebendazole, and is supplied in boxes of twelve tablets.
VERMOX (mebendazole) is an original product of Janssen Pharmaceutica, Belgium.

US Patent 3,657,267
December 1979

Committed to research...
because so much remains to be done.

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JPI-282

Cyclapen®-W (cyclacillin)

Indications
Cyclacillin has less in vitro activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

RESPIRATORY TRACT
- Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
- Bronchitis and pneumonia caused by S. pneumoniae (formerly D. pneumoniae)
- Otitis media caused by S. pneumoniae (formerly D. pneumoniae), *H. influenzae*, and Group A beta-hemolytic streptococci
- Acute exacerbation of chronic bronchitis caused by *H. influenzae**

*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, nonpenicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on oral penicillin. Although anophylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY: Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Pharyngitis	250 mg q.i.d.	body weight < 20 kg (44 lbs) 125 mg t.i.d. body weight > 20 kg (44 lbs) 250 mg t.i.d.
Bronchitis and Pneumonia		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/day q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day t.i.d.†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day†
Urinary Tract	500 mg q.i.d.	100 mg/kg/day

*Dosage should not result in a dose higher than that for adults.
†depending on severity

How Supplied Tablets 250 mg and 500 mg in bottles of 100. Oral Suspension 125 mg and 250 mg per 5 ml in bottles to make 100 ml and 200 ml of Suspension.

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Compared to amoxicillin

Faster peak. Fewer problems.

. . . in infants and children

Cyclapen®-W (cyclacillin) produces twice the peak serum concentration* (15.6 mcg/ml versus 7.3 mcg/ml) in half the time (30 minutes versus 60 minutes).[1]

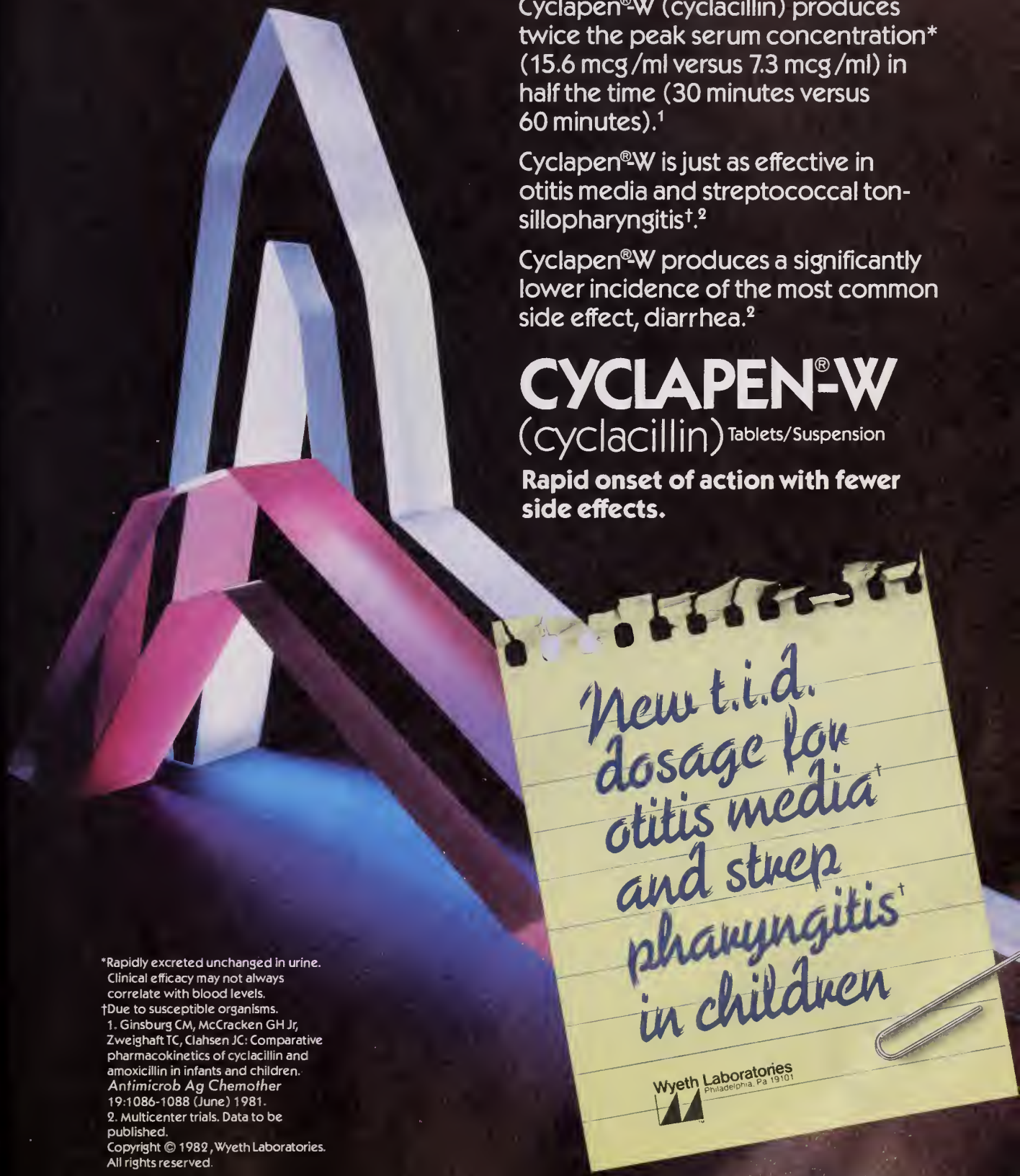
Cyclapen®-W is just as effective in otitis media and streptococcal tonsillopharyngitis†.[2]

Cyclapen®-W produces a significantly lower incidence of the most common side effect, diarrhea.[2]

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(cyclacillin) Tablets/Suspension

Rapid onset of action with fewer side effects.



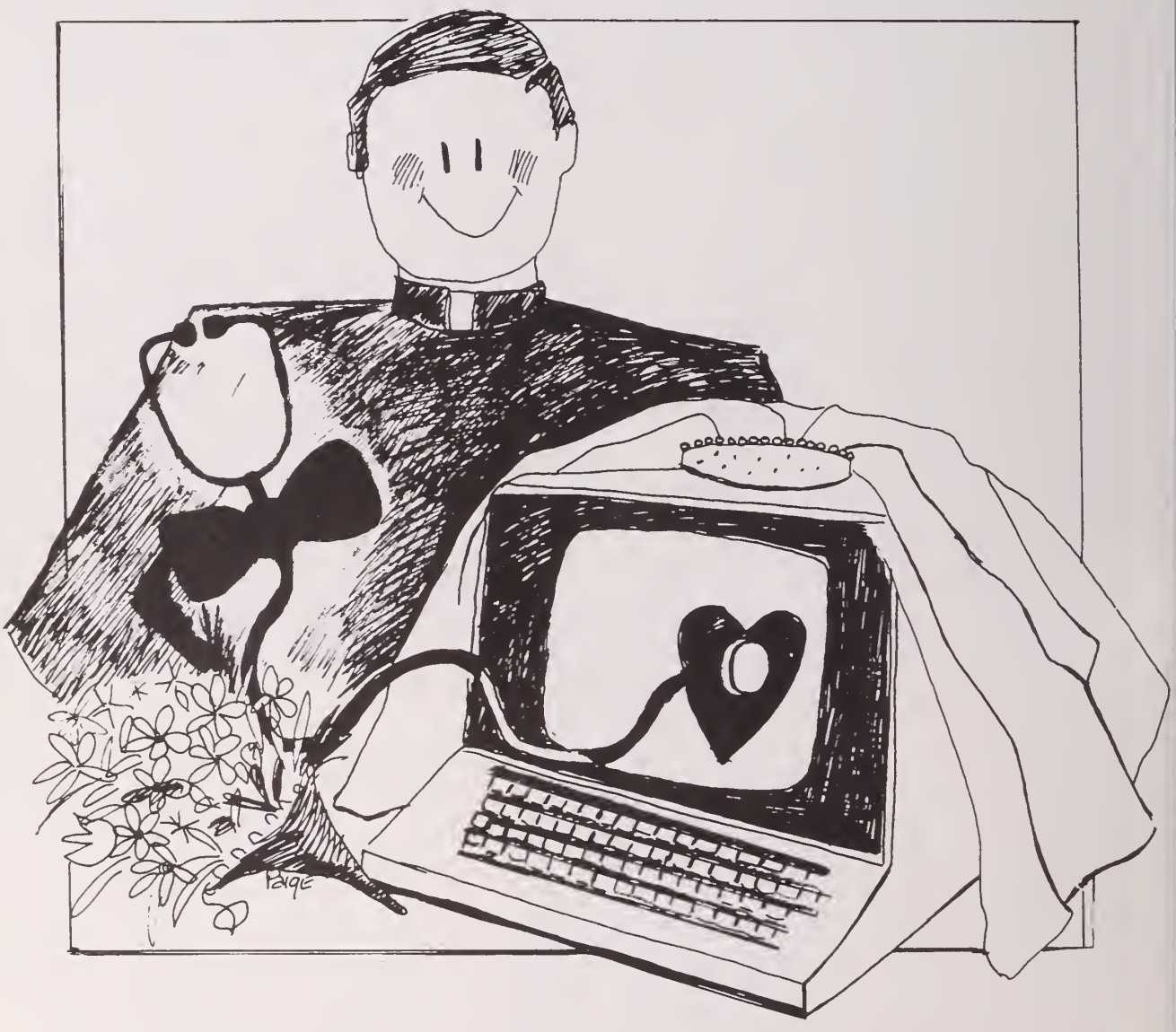
*Rapidly excreted unchanged in urine. Clinical efficacy may not always correlate with blood levels.
†Due to susceptible organisms.

1. Ginsburg CM, McCracken GH Jr, Zweighaft TC, Clahsen JC: Comparative pharmacokinetics of cyclacillin and amoxicillin in infants and children. *Antimicrob Ag Chemother* 19:1086-1088 (June) 1981.
2. Multicenter trials. Data to be published.

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It all adds up,

in today's major hypertension studies

VA Study[1]

- 450 patients studied
- Mild to moderate hypertensives
- Comparison of propranolol and reserpine for Step-2 antihypertensive therapy
- **Conclusion:** when added to a thiazide diuretic, reserpine was effective in a larger percentage of patients (88%) than was propranolol (81%)!

HDFP Study[2]

- More than 10,000 patients studied
- Conducted at 14 centers over 5 years
- Proved that compliance with Step Care lowers death rate from all cardiovascular causes
- **Conclusion:** reserpine-thiazide regimens were *preferred* for Step-2 therapy, and were deemed effective, without significant adverse effects!

MRFIT Study[3]

- 6-year, 12,000-patient study, to be completed in 1982
- Assesses factors that may increase risk of cardiovascular disease
- Preferred Step-2 regimen: reserpine-thiazide
- **Full year's data:** reserpine is causing less depression than methyldopa, diuretics, or placebo!

That's why the combination in

Salutensin®

(hydroflumethiazide 50 mg/ reserpine 0.125 mg)

Is the preferred Step-2 regimen

Please see references and brief summary of prescribing information on adjacent page.

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Salutensin®
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Brief Summary of Prescribing Information (12) 10/27/78
For complete information consult Official Package Circular.

WARNING

This fixed combination drug is not indicated for initial therapy of hypertension. Hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension is not static, but must be reevaluated as conditions in each patient warrant.

CONTRAINDICATIONS

Anuria, oliguria, active peptic ulceration, ulcerative colitis, severe depression or hypersensitivity to its components contraindicates the use of Salutensin.

WARNINGS

Small-bowel lesions (obstruction, hemorrhage, perforation and death) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs. Use cautiously, and only when deemed essential, in fertile, pregnant or lactating patients.

Use in Pregnancy—Thiazides cross the placenta and can cause fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly electrolyte disturbances. Fatal reactions may occur with reserpine during electroshock therapy; discontinue Salutensin 2 weeks before such therapy. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine-treated mothers.

PRECAUTIONS

Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss may cause digitalis intoxication. *Potassium loss responds to potassium-rich foods, potassium chloride or, if necessary, discontinuation of therapy.* Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy 2 weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution in patients with chronic uremia, angina pectoris, coronary thrombosis or extensive cerebral vascular disease or bronchial asthma and in those with a history of peptic ulceration or bronchial asthma; in post-sympathectomy patients; in patients on quinidine; and in patients with gallstones, in whom biliary colic may occur. Patients who have diabetes mellitus or who are suspected of being prediabetic should be kept under close observation if treated with this agent.

ADVERSE REACTIONS

Hydroflumethiazide—Skin-rashes (including exfoliative dermatitis), skin photosensitivity, urticaria, necrotizing angiitis, xanthopsia, granulocytopenia, aplastic anemia, orthostatic hypotension (potentiated with alcohol, barbiturates or narcotics), allergic glomerulonephritis, acute pancreatitis, liver involvement (intrahepatic cholestatic jaundice), purpura plus or minus thrombocytopenia, hyperuricemia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation.

Reserpine—Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth, weight gain, impotence or decreased libido, conjunctival injection, dull sensorium, deafness, glaucoma, uveitis, optic atrophy, and, with overdosage, agitation, insomnia and nightmares.

USUAL DOSE

The usual adult dose of Salutensin is one tablet once or twice daily. If a smaller amount of thiazide diuretic is desired, Salutensin-Demi, one tablet once or twice daily can be given.

SUPPLIED

Bottles of 10 and 1000 scored tablets.

REFERENCES

1. Propranolol in the treatment of essential hypertension. Veterans Administration Cooperative Study Group on Antihypertensive Agents. *JAMA* 237:2303-2310, 1977.
2. Five-year findings of the hypertension detection and follow-up program: I. Reduction in mortality of persons with high blood pressure, including mild hypertension. Hypertension Detection and Follow-up Program Cooperative Group. *JAMA* 242:2562-2571, 1979.
3. Moser M, Kaplan NM, Sullivan JM, Paul O, in discussion: Perspectives on MRFIT. Can the interim data be applied to your practice...? An Interim Report on the Ongoing Multiple Risk Factor Intervention Trial: MRFIT. *New Perspectives on Hypertension* 2(1):10-19, February 1981.

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The American Medical Association-Education and Research Foundation is offering scholarships in clinical nutrition to third- and fourth-year medical students who have completed the required clerkships in medicine, surgery, pediatrics, etc. Scholarships are available to students in schools that do not have clinical nutrition clerkships or that do not have them in their special area of interest. Students accepted to the program will receive a $700 award to defray living and traveling costs. Deadlines for applications are: August 1, 1982, for clerkships from December 1, 1982, to May 31, 1983; and February 1, 1983, for clerkships from June 1, 1983, to November 30, 1983. For application forms contact the Department of Foods and Nutrition, American Medical Association, 535 North Dearborn Street, Chicago, IL 60610 or call (312) 751-6514.

The University of Colorado Health Sciences Center will hold a symposium on the "Health Effects of Low Level Exposure to Radiation" on August 22-27, 1982, at Snow Mountain Ranch, Colorado. The symposium will feature in-depth discussions about the health effects of radiation, critical analyses of radiation studies, standards for protection against radiation, and nuclear power and its alternatives. Snow Mountain Ranch, the site of the meeting, is a 2,500-acre mountain resort located in the Arapahoe National Forest. For information on registration contact the Office of Postgraduate Medical Education, University of Colorado Health Sciences Center, 4200 E. Ninth Avenue (#C-295), Denver, Colorado 80262, or call (303) 394-5241.

The Chamber of Commerce of the United States has published the *New Primer for Hospital Trustees* to provide an overview of the health care field from the vantage point of the hospital trustee. One of the publication's primary concerns is the rising cost of medical care. The *New Primer* describes the hospital industry and the way in which health insurance (both public and private) has influenced its growth and development. It also describes how hospitals are operated, accredited, and regulated. A separate section discusses the legal duties and responsibilities of trustees. The publication is available at $8.00 per copy from the Chamber of Commerce of the United States, 1615 H Street, NW, Washington, DC 20062. Specify chamber code #6633.

The St John Cardiovascular Institute of Tulsa is accepting reservations for its second annual symposium, "State of the Art." The symposium is set for May 20-22 at the Williams Plaza Hotel in Tulsa. Andreas R. Gruentzig, MD, pioneer in angioplasty and professor of medicine (cardiology) and radiology at Emory University in Atlanta, will head the list of the distinguished guest faculty. Other guests include Harvey J. Berger, MD, Yale University School of Medicine; Antonio C. deLeon, MD, incoming medical director at St John's CVI; Donald B. Doty, MD, University of Iowa; Norman M. Kaplan, MD, University of Texas Southwestern Medical School; Burton E. Sobel, MD, Washington School of Medicine; and John A. Spittell, MD, Mayo Foundation, Rochester, Minnesota. For further information contact Mark Murray, RN, St John Cardiovascular Institute, (918) 744-2987.

Letters are being sent to 200,000 physicians asking them to take part in a project to determine if the risk of heart attack and stroke can be reduced by aspirin and if the risk of lung cancer can be reduced by beta carotene. The study is funded by a $3.7 million grant from the National Heart, Lung, and Blood Institute and the National Cancer Institute. The physicians eventually selected for the study—males between 40 and 75 years of age—will take the aspirin, beta carotene, or placebos for at least five years. Principal investigator is Charles H. Hennekens, MD, of the Harvard Medical School. □

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Dosage: Not recommended for infants less than two months of age.

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Adults: Usual adult dosage for urinary tract infections—1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 10-14 days. Use identical daily dosage for 5 days for shigellosis.

Children: Recommended dosage for children with urinary tract infections or acute otitis media—8 mg/kg trimethoprim and 40 mg/kg sulfamethoxazole per 24 hours, in two divided doses for 10 days. Use identical daily dosage for 5 days for shigellosis.

For patients with renal impairment: Use recommended dosage regimen when creatinine clearance is above 30 ml/min. If creatinine clearance is between 15 and 30 ml/min, use one-half the usual regimen. Bactrim is not recommended if creatinine clearance is below 15 ml/min.

ACUTE EXACERBATIONS OF CHRONIC BRONCHITIS IN ADULTS:

Usual adult dosage: 1 DS tablet (double strength), 2 tablets (single strength) or 4 teasp. (20 ml) b.i.d. for 14 days.

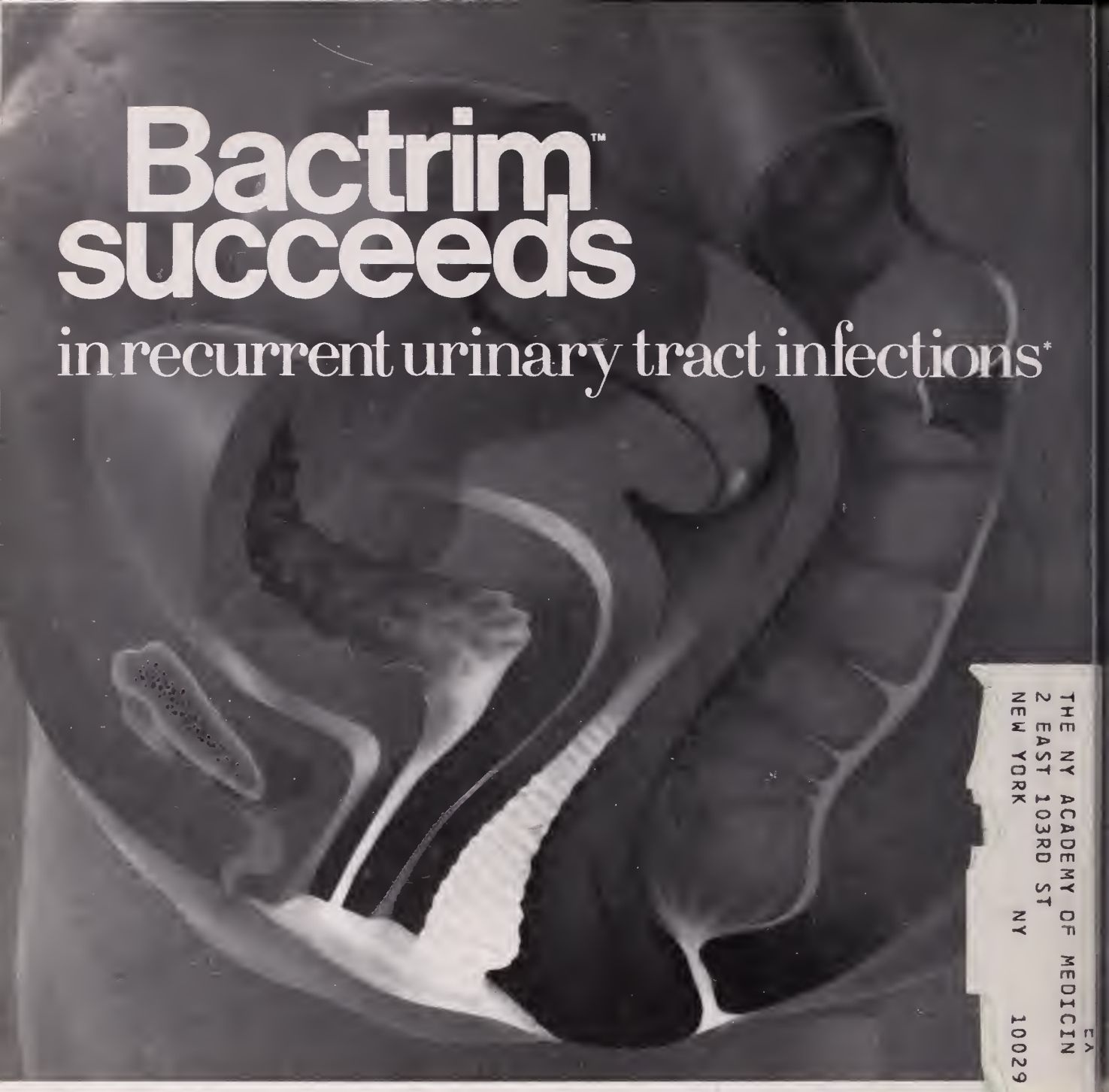
PNEUMOCYSTIS CARINII PNEUMONITIS:

Recommended dosage: 20 mg/kg trimethoprim and 100 mg/kg sulfamethoxazole per 24 hours in equal doses every 6 hours for 14 days. See complete product information for suggested children's dosage table.

Supplied: *Double Strength (DS) tablets,* each containing 160 mg trimethoprim and 800 mg sulfamethoxazole, bottles of 100; Tel-E-Dose® packages of 100; Prescription Paks of 20 and 28. *Tablets,* each containing 80 mg trimethoprim and 400 mg sulfamethoxazole—bottles of 100 and 500; Tel-E-Dose® packages of 100. Prescription Paks of 40. *Pediatric Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); cherry-flavored—bottles of 100 ml and 16 oz (1 pint). *Suspension,* containing 40 mg trimethoprim and 200 mg sulfamethoxazole per teaspoonful (5 ml); fruit-licorice flavored—bottles of 16 oz (1 pint).

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1. Rubin RH, Swartz MN: *N Engl J Med* 303:426-432, Aug 21, 1980. 2. Data on file, Medical Department, Hoffmann-La Roche Inc.

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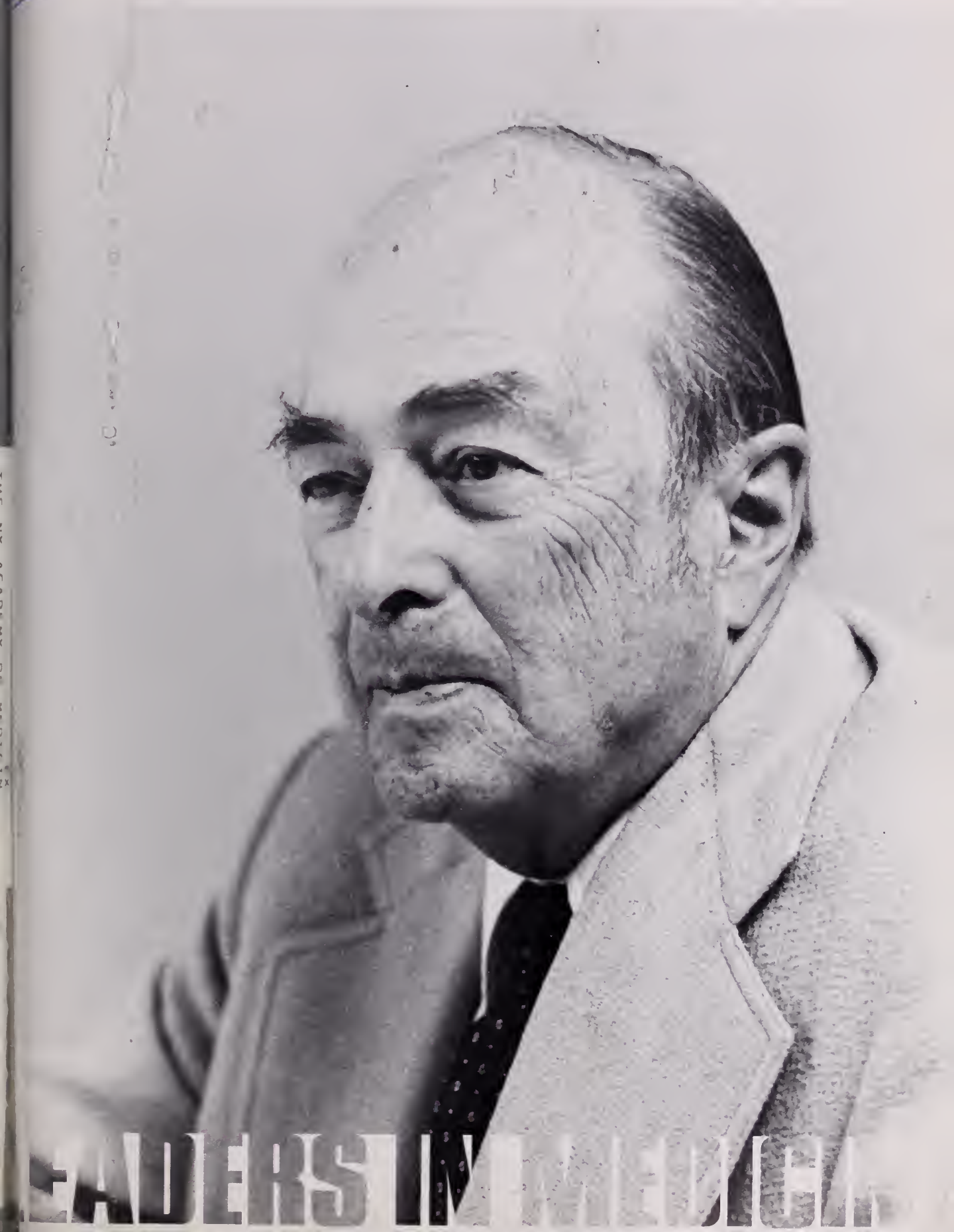
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*due to susceptible strains of indicated organisms

Please see previous page for summary of product information.

Volume 75 — Number 6 — June 19

JOURNAL *Oklahoma State Medical Association*



HYPERTENSION:



METHYLDOPA? RESERPINE? INDERAL? COUNTLESS THOUSANDS WOULD BE BETTER OFF WITH INDERAL®

(PROPRANOLOL HCl) B.I.D.

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INDERAL blocks beta-receptor sites *in the heart* to reduce heart rate and cardiac output—reducing cardiac work load—sparing an overburdened heart.

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INDERAL—the sooner, the better for hypertension—a leading risk factor in coronary heart disease.[1]

*Please see following page for Brief Summary of Prescribing Information.



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INDERAL®
(PROPRANOLOL HCl)
B.I.D. FOR HYPERTENSION

BRIEF SUMMARY *(FOR FULL PRESCRIBING INFORMATION SEE PACKAGE CIRCULAR)*

Inderal® BRAND OF **propranolol hydrochloride A beta-adrenergic blocking agent**

BEFORE USING INDERAL (PROPRANOLOL HYDROCHLORIDE) THE PHYSICIAN SHOULD BE THOROUGHLY FAMILIAR WITH THE BASIC CONCEPT OF ADRENERGIC RECEPTORS (ALPHA AND BETA) AND THE PHARMACOLOGY OF THIS DRUG

CONTRAINDICATIONS

INDERAL is contraindicated in 1) bronchial asthma 2) allergic rhinitis during the pollen season 3) sinus bradycardia and greater than first degree block 4) cardiogenic shock 5) right ventricular failure secondary to pulmonary hypertension 6) congestive heart failure (see WARNINGS) unless the failure is secondary to a tachyarrhythmia treatable with INDERAL 7) in patients on adrenergic-augmenting psychotropic drugs (including MAO inhibitors) and during the two week withdrawal period from such drugs

WARNINGS

CARDIAC FAILURE Sympathetic stimulation is a vital component supporting circulatory function in congestive heart failure and inhibition with beta-blockade always carries the potential hazard of further depressing myocardial contractility and precipitating cardiac failure INDERAL acts selectively without abolishing the inotropic action of digitalis on the heart muscle (i e that of supporting the strength of myocardial contractions) In patients already receiving digitalis the positive inotropic action of digitalis may be reduced by INDERAL's negative inotropic effect The effects of INDERAL and digitalis are additive in depressing AV conduction

IN PATIENTS WITHOUT A HISTORY OF CARDIAC FAILURE continued depression of the myocardium over a period of time can, in some cases lead to cardiac failure In rare instances, this has been observed during INDERAL therapy Therefore, at the first sign or symptom of impending cardiac failure patients should be fully digitalized and/or given a diuretic, and the response observed closely a) if cardiac failure continues, despite adequate digitalization and diuretic therapy, INDERAL therapy should be immediately withdrawn b) if tachyarrhythmia is being controlled, patients should be maintained on combined therapy and the patient closely followed until threat of cardiac failure is over

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases myocardial infarction, following *abrupt* discontinuation of INDERAL therapy Therefore when discontinuance of INDERAL is planned the dosage should be gradually reduced and the patient carefully monitored In addition, when INDERAL is prescribed for angina pectoris, the patient should be cautioned against interruption or cessation of therapy without the physician's advice If INDERAL therapy is interrupted and exacerbation of angina occurs, it usually is advisable to reinstitute INDERAL therapy and take other measures appropriate for the management of unstable angina pectoris Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease who are given propranolol for other indications

IN PATIENTS WITH THYROTOXICOSIS, possible deleterious effects from long term use have not been adequately appraised Special consideration should be given to propranolol's potential for aggravating congestive heart failure Propranolol may mask the clinical signs of developing or continuing hyperthyroidism or complications and give a false impression of improvement Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism including thyroid storm This is another reason for withdrawing propranolol slowly Propranolol does not distort thyroid function tests

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker In one case this resulted after an initial dose of 5 mg propranolol

IN PATIENTS DURING ANESTHESIA with agents that require catecholamine release for maintenance of adequate cardiac function, beta blockade will impair the desired inotropic effect Therefore INDERAL should be titrated carefully when administered for arrhythmias occurring during anesthesia

IN PATIENTS UNDERGOING MAJOR SURGERY beta blockade impairs the ability of the heart to respond to reflex stimuli For this reason with the exception of pheochromocytoma, INDERAL should be withdrawn 48 hours prior to surgery, at which time all chemical and physiologic effects are gone according to available evidence However in case of emergency surgery, since INDERAL is a competitive inhibitor of beta receptor agonists, its effects can be reversed by administration of such agents e g isoproterenol or levarterenol However such patients may be subject to protracted severe hypotension Difficulty in restarting and maintaining the heart beat has also been reported

IN PATIENTS PRONE TO NONALLERGIC BRONCHOSPASM (e g , CHRONIC BRONCHITIS EMPHYSEMA) INDERAL should be administered with caution since it may block bronchodilation produced by endogenous and exogenous catecholamine stimulation of beta receptors

DIABETICS AND PATIENTS SUBJECT TO HYPOGLYCEMIA Because of its beta-adrenergic blocking activity INDERAL may prevent the appearance of premonitory signs and symptoms (pulse rate and pressure changes) of acute hypoglycemia This is especially important to keep in mind in patients with labile diabetes Hypoglycemic attacks may be accompanied by a precipitous elevation of blood pressure

USE IN PREGNANCY The safe use of INDERAL in human pregnancy has not been established Use of any drug in pregnancy or women of childbearing potential requires that the possible risk to mother and/or fetus be weighed against the expected therapeutic benefit Embryotoxic effects have been seen in animal studies at doses about 10 times the maximum recommended human dose

PRECAUTIONS

Patients receiving catecholamine depleting drugs such as reserpine should be closely observed if INDERAL is administered The added catecholamine blocking action of this drug may then produce an excessive reduction of the resting sympathetic nervous activity Occasionally, the pharmacologic activity of INDERAL may produce hypotension and/or marked bradycardia resulting in vertigo syncopal attacks, or orthostatic hypotension

As with any new drug given over prolonged periods, laboratory parameters should be observed at regular intervals The drug should be used with caution in patients with impaired renal or hepatic function

ADVERSE REACTIONS

Cardiovascular bradycardia congestive heart failure intensification of AV block hypotension paresthesia of hands arterial insufficiency, usually of the Raynaud type thrombocytopenic purpura

Central Nervous System lightheadedness, mental depression manifested by insomnia, lassitude, weakness fatigue, reversible mental depression progressing to catatonia visual disturbances hallucinations, an acute reversible syndrome characterized by disorientation for time and place short term memory loss emotional lability slightly clouded sensorium and decreased performance on neuropsychometrics

Gastrointestinal nausea vomiting epigastric distress abdominal cramping diarrhea, constipation, mesenteric arterial thrombosis ischemic colitis

Allergic pharyngitis and agranulocytosis erythematous rash fever combined with aching and sore throat laryngospasm and respiratory distress

Respiratory bronchospasm

Hematologic agranulocytosis nonthrombocytopenic purpura, thrombocytopenic purpura

Miscellaneous reversible alopecia Oculomucocutaneous reactions involving the skin serous membranes and conjunctivae reported for a beta blocker (practolol) have not been conclusively associated with propranolol

Clinical Laboratory Test Findings Elevated blood urea levels in patients with severe heart disease elevated serum transaminase alkaline phosphatase lactate dehydrogenase

DOSAGE AND ADMINISTRATION

ORAL

HYPERTENSION—*Dosage must be individualized* The usual initial dosage is 40 mg INDERAL twice daily whether used alone or added to a diuretic Dosage may be increased gradually until adequate blood pressure is achieved The usual dosage is 160 to 480 mg per day In some instances a dosage of 640 mg may be required The time needed for full hypertensive response to a given dosage is variable and may range from a few days to several weeks

While twice-daily dosing is effective and can maintain a reduction in blood pressure throughout the day some patients especially when lower doses are used may experience a modest rise in blood pressure toward the end of the 12 hour dosing interval This can be evaluated by measuring blood pressure near the end of the dosing interval to determine whether satisfactory control is being maintained throughout the day If control is not adequate, a larger dose, or 3 times daily therapy may achieve better control

PEDIATRIC DOSAGE

At this time the data on the use of the drug in this age group are too limited to permit adequate directions for use

INTRAVENOUS

The intravenous administration of INDERAL has not been evaluated adequately in the management of hypertensive emergencies

OVERDOSAGE OR EXAGGERATED RESPONSE

IN THE EVENT OF OVERDOSAGE OR EXAGGERATED RESPONSE THE FOLLOWING MEASURES SHOULD BE EMPLOYED

BRADYCARDIA ADMINISTER ATROPINE (0 25 to 1 0 mg) IF THERE IS NO RESPONSE TO VAGAL BLOCKADE ADMINISTER ISOPROTERENOL CAUTIOUSLY

CARDIAC FAILURE – DIGITALIZATION AND DIURETICS

HYPOTENSION– VASOPRESSORS, e g LEVARTERENOL OR EPINEPHRINE (THERE IS EVIDENCE THAT EPINEPHRINE IS THE DRUG OF CHOICE)

BRONCHOSPASM– ADMINISTER ISOPROTERENOL AND AMINOPHYLLINE

HOW SUPPLIED

INDERAL (propranolol hydrochloride)

TABLETS

No 461– Each scored tablet contains 10 mg of propranolol hydrochloride in bottles of 100 and 1,000 Also in unit dose package of 100

No 462 – Each scored tablet contains 20 mg of propranolol hydrochloride in bottles of 100 and 1,000 Also in unit dose package of 100

No 464 Each scored tablet contains 40 mg of propranolol hydrochloride, in bottles of 100 and 1,000 Also in unit dose package of 100

No 468 Each scored tablet contains 80 mg of propranolol hydrochloride, in bottles of 100 and 1,000 Also in unit dose package of 100

INJECTABLE

No 3265– Each ml contains 1 mg of propranolol hydrochloride in Water for Injection The pH is adjusted with citric acid Supplied as 1 ml ampuls in boxes of 10

Reference: 1 Freis E D Hypertension (Suppl II) 3 230 (Nov-Dec) 1981

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Cyclapen®-W (cyclacillin)

Indications
Cyclacillin has less in vitro activity than other drugs in the ampicillin class and its use should be confined to these indications: Treatment of the following infections:

RESPIRATORY TRACT
Tonsillitis and pharyngitis caused by Group A beta-hemolytic streptococci
Bronchitis and pneumania caused by S. pneumoniae (formerly *D. pneumoniae*)
Otitis media caused by *S. pneumaniae* (formerly *D. pneumaniae*), *H. influenzae*, and Group A beta-hemolytic streptococci
Acute exacerbation of chronic bronchitis caused by *H. influenzae**
*Though clinical improvement has been shown, bacteriologic cures cannot be expected in all patients with chronic respiratory disease due to *H. influenzae*.

SKIN AND SKIN STRUCTURES (integumentary) infections caused by Group A beta-hemolytic streptococci and staphylococci, non-penicillinase producers.

URINARY TRACT INFECTIONS caused by *E. coli* and *P. mirabilis*. (This drug should not be used in any *E. coli* and *P. mirabilis* infections other than urinary tract.)

NOTE: Perform cultures and susceptibility tests initially and during treatment to monitor effectiveness of therapy and susceptibility of bacteria. Therapy may be instituted prior to results of sensitivity testing.

Contraindications Contraindicated in individuals with history of an allergic reaction to penicillins.

Warnings Cyclacillin should only be prescribed for the indications listed herein.

Cyclacillin has less *in vitro* activity than other drugs of the ampicillin class. However, clinical trials demonstrated it is efficacious for recommended indications.

Serious and occasional fatal hypersensitivity (anaphylactoid) reactions have been reported in patients on penicillin. Although anaphylaxis is more frequent following parenteral use, it has occurred in patients on oral penicillins. These reactions are more apt to occur in individuals with history of sensitivity to multiple allergens. There are reports of patients with history of penicillin hypersensitivity reactions who experienced severe hypersensitivity reactions when treated with a cephalosporin. Before penicillin therapy, carefully inquire about previous hypersensitivity reactions to penicillins, cephalosporins and other allergens. If allergic reaction occurs, discontinue drug and initiate appropriate therapy. Serious anaphylactoid reactions require immediate emergency treatment with epinephrine. Oxygen, I.V. steroids, airway management, including intubation, should also be administered as indicated.

Precautions Prolonged use of antibiotics may promote overgrowth of nonsusceptible organisms. If superinfection occurs, take appropriate measures.

PREGNANCY. Pregnancy Category B. Reproduction studies performed in mice and rats at doses up to 10 times the human dose revealed no evidence of impaired fertility or harm to the fetus due to cyclacillin. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, use this drug during pregnancy only if clearly needed.

NURSING MOTHERS: It is not known whether this drug is excreted in human milk. Because many drugs are, exercise caution when cyclacillin is given to a nursing woman.

Adverse Reactions Oral cyclacillin is generally well tolerated. As with other penicillins, untoward sensitivity reactions are likely, particularly in those who previously demonstrated penicillin hypersensitivity or with history of allergy, asthma, hay fever, or urticaria. Adverse reactions reported with cyclacillin: diarrhea (in approximately 1 out of 20 patients treated), nausea and vomiting (in approximately 1 in 50), and skin rash (in approximately 1 in 60). Isolated instances of headache, dizziness, abdominal pain, vaginitis, and urticaria have been reported. (See WARNINGS) Other less frequent adverse reactions which may occur and are reported with other penicillins are anemia, thrombocytopenia, thrombocytopenic purpura, leukopenia, neutropenia and eosinophilia. These reactions are usually reversible on discontinuation of therapy.

As with other semisynthetic penicillins, SGOT elevations have been reported.

As with antibiotic therapy generally, continue treatment at least 48 to 72 hours after patient becomes asymptomatic or until bacterial eradication is evidenced. In Group A beta-hemolytic streptococcal infections, at least 10 days' treatment is recommended to guard against risk of rheumatic fever or glomerulonephritis. In chronic urinary tract infection, frequent bacteriologic and clinical appraisal is necessary during therapy and possibly for several months after. Persistent infection may require treatment for several weeks.

Cyclacillin is not indicated in children under 2 months of age.

Patients with Renal Failure Cyclacillin may be safely administered to patients with reduced renal function. Due to prolonged serum half-life, patients with various degrees of renal impairment may require change in dosage level (see DOSAGE AND ADMINISTRATION in package insert).

Dosage (Give in equally spaced doses)

INFECTION	ADULTS	CHILDREN*
Respiratory Tract		
Tonsillitis & Phoryngitis	250 mg q.i.d	body weight < 20 kg (44 lbs) 125 mg t.i.d. body weight > 20 kg (44 lbs) 250 mg t.i.d.
Bronchitis and Pneumania		
Mild or Moderate Infections	250 mg q.i.d.	50 mg/kg/doy q.i.d.
Chronic Infections	500 mg q.i.d.	100 mg/kg/day q.i.d.
Otitis Media	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/day t.i.d.†
Skin & Skin Structures	250 mg to 500 mg q.i.d.†	50 to 100 mg/kg/doy†
Urinary Tract	500 mg q.i.d.	100 mg/kg/doy

*Dosage should not result in a dose higher than that for adults.
†depending on severity

How Supplied Tablets 250 mg and 500 mg in bottles of 100. Oral Suspension 125 mg and 250 mg per 5 ml in bottles to make 100 ml and 200 ml of Suspension.

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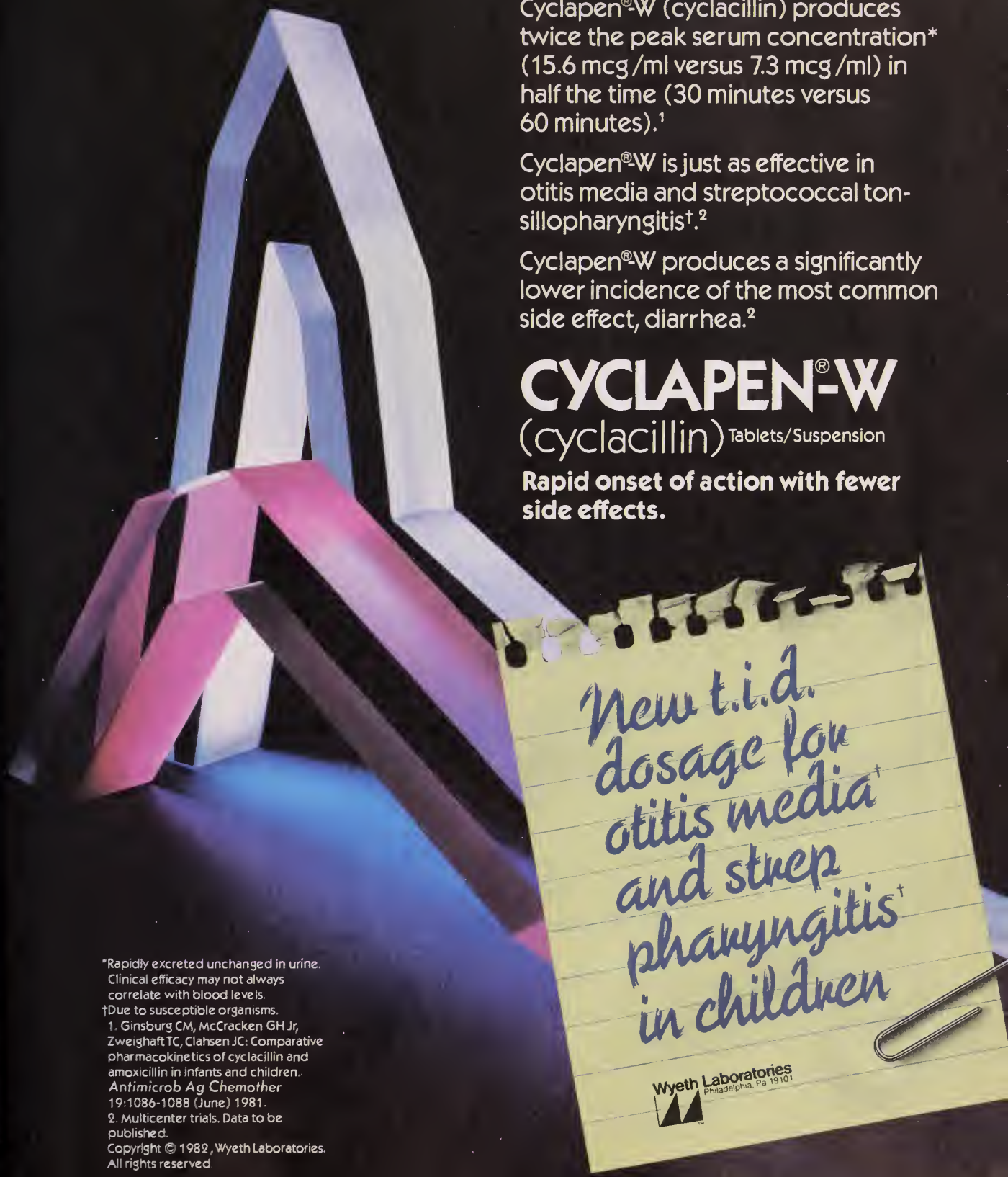
Cyclapen®-W is just as effective in otitis media and streptococcal tonsillopharyngitis†.[2]

Cyclapen®-W produces a significantly lower incidence of the most common side effect, diarrhea.[2]

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†Due to susceptible organisms.

1. Ginsburg CM, McCracken GH Jr, Zweighaft TC, Clahsen JC: Comparative pharmacokinetics of cyclacillin and amoxicillin in infants and children. *Antimicrob Ag Chemother* 19:1086-1088 (June) 1981.
2. Multicenter trials. Data to be published.

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Sorry Shot

Elsewhere in this issue, under the caption "Reaction Time," our readers will find letters from some of my esteemed colleagues who wrote in response to a recent editorial of mine entitled "Right Weapon - Wrong Target." In that expression of opinion I was critical of the Surgeon General's most recent condemnation of cigarette smoking in particular and the use of tobacco in general.

I am pleased that my colleagues read the editorial and took the time to express their views and convictions. I respect them and their opinions and am grateful to them for their letters, even though their motivation appears to have been critical. As an editor I value criticism as much as praise and in spite of my preference for praise, I realize that criticism is more apt to improve my performance and elevate the quality of our *Journal*.

Without responding directly to the challenges contained in the letters — without arguing the validity of statistics — and without initiating an unending controversy, I will take this occasion to reiterate the real point of my previous editorial. Obviously, I totally failed to make that point, a fault which is mine, exclusively.

It is past time for some appropriate voice of authority to publicize the epidemic of alcohol abuse in our nation; a voice, such as that of a Surgeon General, which has direct access to the public media. In my opinion, alcohol abuse is the leading cause of preventable deaths and by an even broader margin, the costliest aberration of behavior among the citizens of this country today, in terms of dollars, human suffering and social tragedy. The zealous advocacy of abstinence from smoking by so many physicians of this world — while so few advocate abstinence from drinking — convinces me that the vast and growing problem of alcohol abuse is being neglected if not thoroughly ignored.

I do *not* endorse the use of tobacco in any form. I do *not* question the role of cigarette smoking in the pathogenesis of fatal diseases. I support every effort to educate the public about the hazards of smoking, to dissuade beginners and encourage abstinence among current users. And I am heartened by the current statistics which suggest that cigarette smoking may be in a real decline.

I am alarmed, however, by the fact that alcohol abuse *is* a growing problem, especially among the youth of our nation. And by the fact that our failure to address the issue is dismissed by recalling that prohibition didn't work.

If the sanctity of my environment had to be defended from violation by a smoker of cigarettes, I would feel adequately armed with a pea-shooter. On the other hand, if I had to defend it from violation by a drunk, a cannon would not be excessive.

That was my point. I apologize for my poor marksmanship. *MRJ*



Competition may be defined as the striving of two or more for the same object; a contest for the acquisition of something; a match; a trial of ability. "Pro-competition" as an approach to solve the problems of medical care costs requires consideration of the many facets of the possible effects on both cost-effectiveness and the quality of medical care. Any physician who practices medicine has been in competition all his life with each of his colleagues with comparable skills and ability, and he is no stranger to the ill effects of his own shortcomings on his professional satisfactions, his happiness, and his earnings. Our quest for increased professional knowledge and skills is stimulated by this sense of competition, and is a great factor in our individual professional growth and stature. The introduction of "Pro-competition" legislation as a means of inducing cost-effectiveness relies upon the old economic law of supply and demand, and requires that the physician, nurse, hospital, pharmacy, suppliers, and all others concerned with medical care reduce their own costs of education, preparation, continued education, and day-to-day operations in order to "meet the competition." This is purely market-place fact and philosophy and ignores the other facet of competition, which is really to produce a superior and more desirable product. In the medical profession this means Quality Medical Care.

The Commission on the Cost of Medical Care has noted that competition affected both the level of cost and the average quality of care (to lower both). In general, it appears that competition is an effective way of improving the cost-effective delivery of services. Since competition is nothing new in the medical profession or its ancillary services, we must assume some more destructive approaches to increase cost-effectiveness. One can conjure many dragons for this purpose — assignment of physician-patient-hospital use; combining segments of the medical community into forced groups; strict governmental control of hospital staffs; direct control of the length of physician education and training; subsidization of organizations for health care delivery; mandatory patient referral; and an open door to all competitors licensed or unlicensed, competent or incompetent. All these, although perhaps cost-effective, are even more certain to reduce the quality of care.

We cannot decry competition, but we must oppose and balance all efforts at cost-effectiveness with even greater efforts to continue and improve the quality of patient care. The American Medical Association has taken a similar position, and deserves our support.

John A. McIntyre, MD



Homer A. Ruprecht, MD

Leaders in Medicine—Homer A. Ruprecht, MD

JUDY LEITNER

A Young Ohio physician, just finishing his residency at Cleveland City Hospital in 1931, received a letter requesting that he consider setting up his medical practice in Tulsa.

Homer A. Ruprecht, MD, didn't even know where Tulsa was, and he threw the letter away.

"I didn't even answer the letter because Tulsa sounded so far away psychologically," he said.

Now, after more than half a century of medical service, Dr Ruprecht is one of Oklahoma's most respected physicians and is a tireless civic leader in that once unknown city.

Young Dr Ruprecht's introduction to the existence of Tulsa via the letter was followed a short time later by a personal visit from the letter writer, Dr Murl Springer, founder of Tulsa's Springer Clinic. Dr Springer was looking for a cardiologist for his clinic and had been given Dr Ruprecht's name by a mutual acquaihtance of both doctors.

Although unconvinced of a future practice in Tulsa, Dr Ruprecht was impressed that a physician of the standing of Dr Springer would follow up on his recruiting efforts. So, after "asking around about Tulsa and hearing favorable things" from some of his colleagues, Dr Ruprecht agreed to a visit to Tulsa.

The result of that visit is a 51-year affiliation with the same clinic and a deep affection for an adopted city and state.

Both Drs Ruprecht and Springer were graduated from Case Western Reserve University in Cleveland, Ohio.

After receiving a bachelor's degree in pre-medicine and chemistry in 1925, Dr Ruprecht earned his MD in 1928. He then interned in "straight" medicine, an unusual internship at the time, at Lakeside Hospital in

Cleveland, a teaching hospital affiliated with Case Western Reserve.

He served one year as chief resident at Cleveland City Hospital in 1930-31, also in medicine.

Dr Ruprecht was the third physician in Tulsa to establish a practice in cardiology. His interest in the speciality was stimulated by "wonderful teachers" in medical school in the area of cardiovascular physiology and by good experience in cardiology during his residency program.

The practice of medicine has changed tremendously since Dr Ruprecht began his practice in Tulsa in September of 1931, some for the better and some not so good, says the outspoken physician.

Looking much younger than his 78 years, the nattily dressed cardiologist was almost reluctant to discuss the accomplishments of his medical service. So full of the energy which continues to sustain the doctor to maintain a fulltime practice, Dr Ruprecht had difficulty in remaining behind his desk during the course of the interview. His alert brown eyes flickered with recollections of his early practice.

"The physical examination hasn't changed too much," he said, noting for a period physicians did not pay as much attention to the findings of the examination as they do now.

He pointed out that cardiologists now are dealing with different diseases than when he first entered the field. "There used to be lots of rheumatic fever in those days, in fact, the hospitals were full of it when I was in school," he said. "Now, it is pretty rare."

He said antibiotics probably have been the greatest advancement in medicine during his career, because people who were once given



Dr Ruprecht takes the pulse of Stewart Allee who has been his patient for more than 20 years.

little chance for survival are now cured of illnesses.

"You give antibiotics to people and you don't even take the illness seriously anymore," he said of streptococcal infections which used to result in many cases of rheumatic fever.

When he was an intern, 45 percent of patients with a particular type of pneumonia died, Dr Ruprecht said.

"Now, with antibiotics, you don't really worry about them."

The use of penicillin has made rare once widespread heart problems related to syphilis, and cardiologists don't seem to see as much congenital heart diseases, he added.

But, now heart specialists are treating increasing numbers of patients with prolasped heart valve problems. "These problems are becoming more common just as heart surgery also is becoming more common," he said.

Dr Ruprecht "scrubbed down" on one of the first closed heart surgeries ever performed while he was in his residency at Lakeside. "It was nothing like the kinds of things being done now, but it was very exciting at the time."

In the early days of heart surgery the mortality and morbidity rates were high and recovery periods were long and "used to be hell," according to Dr Ruprecht.

"I used to sometimes wonder if it was really worth what some of the patients went through (following heart surgery)," he said.

During the early years, cardiologists had to rely on the electrocardiogram and the x-ray for diagnostic tools. They had nitroglycerin and digitalis available for treatment.

New drugs now do a good job of controlling most high blood pressure which was not possible early in his career, he said. When asked about the effects of stress on modern man, Dr Ruprecht's eyebrows, which seem to punctuate many of his statements, shot up.

"I just don't buy it," he said. "We have it pretty soft. I think we flatter ourselves." He suggested our forefathers who had to worry about being attacked by hostile Indians or dealing with the problems encountered in frontier life were really under much more stress.



Both Dr Marcella Steel and Dr Ruprecht have spent their entire medical careers in association with the Springer Clinic in Tulsa.

The public is doing more about health problems now, such as controlling high blood pressure, because of better education programs, another area where Dr Ruprecht has spent a good deal of time and effort in his professional career.

"For a while, doctors felt we didn't need to treat high blood pressure. In fact, many felt it might be harmful to bring the blood pressure down, but we've learned the blood pressure must be controlled," he stated.

Cardiologists are seeing less heart disease and fewer stroke victims since the onset of good public education programs. He cited as an example the contribution that programs on the importance of controlling and reducing salt in the diet have made.

But, he quickly points out that heart diseases are still serious health problems. The average age of the heart attack victim is now 57 years, he said. Although women "do a lot better, they peak about 10 years later;" it is no longer rare to encounter heart attack victims in the 35-to-40 year age group.

Judy Leitner received her Bachelor of Arts degree in Journalism from the University of Oklahoma in 1969 where she was listed on the Dean's Honor Roll. She has been a writer and reporter for various publications in Oklahoma and Washington, DC and the recipient of many honors and awards.

Smoking may be an important factor contributing toward heart attacks in younger men and women, Dr Ruprecht said.

When asked about plans to retire, Dr Ruprecht looked surprised and before he replied, many of the laugh lines which generously enliven his face, were much in evidence.

"I agree with Hemingway," he said. "When a man retires, a man dies because what a man does is what a man is."

"Only about one person in ten can retire and be happy."

Although he now maintains an active practice, he is gradually decreasing his case load by not taking any new patients. He continues to serve the internal medicine needs of the patients already in the case load. "I'm just slowing down by attrition," he explained.

Giving up medicine is something Dr Ruprecht says he has never contemplated since he made up his mind to become a doctor while still a youngster. In fact, he says he never seriously considered any other career.

"My mother offered me three alternatives," he recalls. "I could either become a preacher, an attorney or a doctor. And it didn't seem to be difficult to make a judgment about becoming a doctor."

He says he didn't even think twice about the other options as a boy growing up in Lakewood, Ohio, a suburb of Cleveland.

Dr Ruprecht is out of the office on Wednesday afternoons, a practice he has followed for many years, and all day Thursday, which is devoted to tennis, a sport that is almost a passion with him.

For years his Wednesday afternoons were spent at St John's Hospital where he taught a course for the staff in electrocardiography, an area of interest and research with Dr Ruprecht for many years.

"I've always been interested in research, in electrocardiography chiefly, but I didn't like to write it up," he laughs. He has had a number of articles published on the subject in the *Journal*.

When asked if he is a good tennis player, he replied, "Let's say I've played for a long time and I've played lots of tennis."

The walls of his office, tucked away in the corner of an examining room at the Springer Clinic, have few adornments, but they reflect the major interests of his lifetime. In addition to a painting of his sailboat, one of the means he uses to relax, are citations from the Tulsa County Medical Society and from the Tulsa City-County Board of Health.

He has been a member of the city-county health board since the 1940's, when he was asked to serve on the board because of his leadership as president of the county medical society.

Assured the volunteer job would involve only one meeting a year, he agreed to serve. Two months later, the health department's director resigned.

"The board had to run the department when that happened and I had to learn quickly about public health work," he recalls.

He continues to serve on the board and has seen directors come and go, and the board has again had to run the department on more than one occasion.

Of his service on the health board, Dr Ruprecht, perhaps a master of understatement, says, "It has been interesting."

When young Dr Ruprecht arrived in Tulsa all those years ago, he was already married to a young physician he met on the hospital wards during his internship years. His wife of 52 years is Dr Marcella Steel, retired anesthesiologist and long-time director of school health for the Tulsa school district.

Dr Steel decided when the couple was married in 1930 that one Dr Ruprecht would be enough and she elected to practice under her maiden name, a decision Dr Ruprecht said saved confusion over the years as his wife also was associated with the Springer Clinic.

Dr Steel had just completed her internship when the couple arrived in Tulsa and she was considering specializing in pediatrics. When they arrived at the clinic, she learned there was a short supply of anesthesiologists. She then returned to Ohio for speciality training in that field.

Like her husband, Dr Steel has said she never considered any career other than medicine. The daughter of a physician, she made her commitment to medicine at an early age.

She retired in 1970 as director of the Tulsa public schools program but continued for several years to work in screening clinics.

The couple shares many interests including tennis, sailing and opera. They have a weekend retreat on Grand Lake where they go as often as possible. Both love to travel and their travels have taken them to Russia

on two occasions, Egypt, Europe, a number of times, and to a favorite area in the western Mediterranean.

On one of the visits to Russia, a medical tour organized by the University of Southern California, Dr Ruprecht toured the Soviet surgical heart institute in Moscow which he was surprised to find was equipped with devices made outside Russia.

Many of the treatment procedures being used by the Soviet physicians were outdated by technology available in this country, Dr Ruprecht felt.

The Ruprechts have two children, a daughter, Virginia (Mrs Neil McCowan), who is a counselor in the Tulsa school system, and a son, Richard, who is in the real estate business in Tulsa. They have two grandchildren.

A Fellow of the American College of Physicians, Dr Ruprecht's list of honors is long and illustrious. In addition to being elected first president of the Tulsa County Heart Association in 1948-49, he was also elected first president of the Oklahoma State Heart Association in 1950.

Dr Ruprecht was instrumental, along with Dr Russell G. Pigford and John H. Dunkin, owner of Tulsa's Brown-Dunkin department store, in forming the Tulsa heart association in October 1948.



Dr Ruprecht's nurse, interprets a telephone message for the doctor.

Using a heart model, Dr Ruprecht explains to patient Margaret Scott just which part of the heart is involved with her particular illness.



In November 1949, at a meeting called by Dr Ruprecht, a committee was formed to plan a state heart association. The committee gave its report recommending the formation at a meeting the following month held in Oklahoma City at the Skirvin Hotel. Out of that meeting the state association was born and Dr Ruprecht was elected its first president.

Of Dr Ruprecht's contribution to better cardiac health care and education, says Rita Matthews, executive director of the American Heart Association, Oklahoma Affiliate, Inc, as the group is now known: "He has been a tremendous influence for better health care in Oklahoma for many years."

She added that his "quiet dynamism and deep dedication" have inspired all those who have known him through the years.

"He and Marcella Steel are a great pair of physicians who radiate concern and compassion," Ms Matthews said.

Dr Ruprecht was named the Tulsa County Heart Association's Man of the Year in 1973 and shared the Tulsa County Medical Society's selection of Doctor of the Year with his wife in 1975. At that time, the couple was honored by the Tulsa County Medical Auxilliary with a tree-planting project in Boulder Park.

Dr Ruprecht is a past director of the Oklahoma Cancer Society and a past president of the Tulsa County Medical Society. He seved as its leader in 1945.

A Phi Beta Kappa student, he holds memberships in Pi Kappa Alpha, Phi Rho Sigma and Alpha Omega Alpha. He is a member of the American Medical Association and the American Heart Association.

For many years, while the Springer Clinic was located near downtown Tulsa, Dr Ruprecht was on the regular staff at St John's Hospital and the visiting staff at Hillcrest Memorial Hospital. He is now affiliated primarily with St Francis Hospital, located across the street from the Springer Clinic.

Dr Ruprecht is on the faculty of the Tulsa branch of the University of Oklahoma Medical School as a Clinical Associate Professor of Medicine but he says he does little instructing at the school.

The plain-speaking physician, who uses his hands a great deal while he is talking, said he thinks it was a mistake to build a separate medical school in Tulsa. He suggests it would have been more practical to work out arrangements with Tulsa hospitals to provide clinical training rather than to establish a branch of the medical school in Tulsa.

He fears the day is quickly approaching when there will be too many doctors in metropolitan areas. An over supply will be bad for the consumer, Dr Ruprecht said, as doctors, pressed for money to meet expenses, will order more laboratory work and x-rays than are really necessary in order to generate business for themselves and colleagues.

It is possible to reach an optimum number of physicians, he said, and suggests that Oklahoma City and Tulsa are "on the verge of reaching it."

He also had strong words for the current emphasis in some medical schools of training more physicians in general practice. The trend away from specialization and back to family practice is one he strongly opposes.

"It just doesn't make any sense," he said, as his eyebrows shot up like exclamation points.

"I think the answer in medicine is a narrow field because you can't cover a wide field, you can't do it. I didn't think you could do it when I graduated."

Training physicians in family practice is not going to help remedy the medical woes of the small communities, as some argue, he said, because most physicians still do not want to set up practices in small towns. "Mostly because their families just do not want to live there," he commented.

"Training more physicians in family practice simply is not going to filter down to the small towns."

One of the spinoffs of Dr Ruprecht's public health work on the City-County Board of Health is a membership for many years on the Moton Health Center board. The center is a comprehensive neighborhood health center program founded in the mid-1960s. It was originally founded with funds from the then US Department of Health, Education and Welfare.

The clinic is located in what Dr Ruprecht describes as primarily a black ghetto area. Its goal is to provide health care for those who can't otherwise afford it. Originally designed to bring comprehensive care including extensive mental and social efforts, it has been cut back through the years as federal funds have dried up.

Dr Ruprecht said the clinic has been useful

but "sure isn't as good a function or an idea as it looked like it would be originally."

Medicine is perhaps at some kind of a crossroads, Dr Ruprecht says, and, although he doesn't know what will happen in the future, the doctor says some action in controlling medical care costs must come soon.

"Increases in medical costs have gone up much faster than inflation," he noted. Some kind of restraints must be put into play on medical costs or many will be priced out of affording adequate medical care.

After much reflection, he said he tends toward favoring placing an annual limit in the range of fifteen percent on the amount medical costs are allowed to increase.

At present, there are no incentives for hospitals to economize, he said. The advent of third-party payers has had a dramatic effect on hospital costs in his opinion.

"I don't think as doctors there is anything we can do about many of the increasing costs of hospitalization. The government will have to do it."

Modern technology has produced bigger, better and more expensive diagnostic devices which have driven up the cost of health care, Dr Ruprecht comments, and "I don't know whether we can afford it."

He said he does not question the usefulness of such devices. "Don't get me wrong, I think they are great and I know they (the expensive diagnostic devices) are busy all the time, but I do question the need for every hospital to have several of them."

One change in hospital care that Dr Ruprecht wholeheartedly approves of is the change in present day hospital architecture to provide all private rooms.

He says having private accommodations has been a great boon to patient recovery.

"After all, you don't go to some fancy hotel when you are well and room with a stranger. Why should you be asked to do so when you are ill and trying to recover?" he asks.

It is his opinion that hospitals adopting modular care facilities and staffing are offering better care in most cases.

When asked what advice he would give medical students considering becoming cardiologists, Dr Ruprecht said young doctors should endeavor to learn all they can about heart catheterization, echocardiology and the use of new drugs to treat blood clots. They should attempt to get as much cardiologic experience as possible during their residency programs.

The practice of medicine, he says, gets more complicated all the time. "While every doctor has some obligation to learn enough general medicine to be able to act as a referring agent for his patients, doctors must narrow their scope," he again stressed.

Medicine in the United States seems to be heading toward some of the same mistakes made by the British in recent years, he said. "It seems as if we are *trying* to make some of the same mistakes economically and socially as well."

If costs are not contained, Dr Ruprecht fears that some form of socialized medicine — a system which is abhorrent to him — may become a reality.

It hasn't worked in England and would not work in this country, Dr Ruprecht believes, because most Americans are used to better care than they would get under such a system.

Until that day comes when socialized medicine is a reality, Dr Ruprecht plans to continue his practice, follow Tulsa's two major college basketball teams, play a lot of tennis and sail his boat on Grand Lake every chance he gets.

He also plans to keep on enjoying living in Tulsa. "I've watched it grow and it is a nice size now."

He has never regretted that decision made more than 50 years ago — to settle there.

I: Difficult Vaginal Deliveries and How to Avoid Them

WARREN M. CROSBY, MD

This article provides clincal clues to anticipate difficult vaginal delivery and suggests clinical strategies to avoid traumatic delivery by selecting those patients for Cesarean section.

The current rise in cesarean section rates has resulted at least in part from increased ability to recognize potential maternal and fetal trauma during delivery. Cesarean section today is less hazardous than difficult forcep deliveries for both the mother and the fetus. This article presents obstetrical strategies based on clinical clues that help the physician avoid difficult and traumatic delivery.

RECOGNITION OF THE MOTHER AT RISK FOR BIRTH TRAUMA

The obstetrical history of the patient often indicates a previous difficulty with delivery. A long second stage (over two hours) or overall prolonged labor (over 20 hours) often indicates the likelihood of a more difficult delivery with a subsequent baby. This is because fetal size at term normally increases with parity. Similarly, a history of a large baby (over nine and one-half pounds or 4,000 grams), even if delivered easily in a previous pregnancy should be a clue that the next baby may be excessively large and the delivery traumatic. A baby that is estimated to weigh more than 4500 grams (or ten pounds) should be delivered electively by cesarean section because of the risk of traumatic delivery due to shoulder dystocia. Diabetic patients and patients with more than five children can be expected to have excessively large babies. Other historical clues include previous vaginal or cervical surgery. Previous vaginal repairs or cervical cerclage often require cesarean section to avoid tearing down the good effects from the previous operation. But of more importance to this discussion is that scar tissue doesn't stretch, and sudden lacerations during delivery may be extensive.

INTRAPARTUM CLUES

An unengaged head of the fetus in early to mid-labor, particularly in primagravidas, frequently heralds a contracted pelvis. Deflection of the fetal head as estimated by the vaginal exam is also a clue to relative cephalopelvic disproportion. In this situation the anterior fontanel is often felt directly in the center of the dilating cervix and implies that the head is not well flexed. Proper flexion of the fetal head is characterized by the *posterior* fontanel being felt in the center of the dilating cervix. Uterine inertia often accompanies a contracted pelvis or an abnormal presentation. This so called "clever uterus" can be explained by the fact that a uterus that doesn't contract well often doesn't force the head into the pelvis normally; the result is abnormal presentation.

The cervix also sometimes gives clues that things are not going well. When the cervix becomes compressed between the symphysis pubis and the fetal presenting part, it may become edematous and therefore unable to retract. Thus cervical edema and increasing thickness of the anterior lip of the cervix is a clue that the head is becoming wedged in a contracted pelvis. It is often possible with inlet contraction to appreciate that the cervix is not properly applied to the fetal presenting part and is flopping loosely about it even dur-

ing a contraction. This is decidedly abnormal and is often accompanied by an inlet contraction. Similarly a patient who has uncontrolled desire to push in the first stage of labor, well prior to complete dilatation, often has a contracted pelvis with an occiput posterior position. In this situation the larger occipital part of the baby's head compresses the rectum and makes the patient feel the urge to push prior to complete dilatation. This situation is often accompanied by a contracted pelvis as well. Failure of descent of the fetal head during the last centimeter or two of the first stage as well as during the second stage is usually associated with a contracted inlet or mid-pelvis. Fetal hydrocephalus may also prevent the head from descending. Occasionally the uterus wraps around the fetal body with hypertonic uterine contractions in such a way as to form a constriction ring. In this rare situation the descent of the fetal presenting part is prevented by the constriction ring of the uterus entrapping the fetus high in the pelvis.

MANAGEMENT OF FAILURE TO PROGRESS

Patients demonstrating these clues for contracted pelvis and those who fail to progress in labor should have x-ray pelvimetry. X-rays reveal bony contraction and have the added value of properly identifying unsuspected abnormal presentations. Even when there are no clues, I feel that anyone who has been in the hospital in labor for 12 hours and hasn't delivered should be re-evaluated by x-ray. In addition, abnormal uterine contractions can produce failure to progress even when the pelvis and fetal presentation are normal. The quality of the labor should be carefully evaluated by the physician. This can be done either by means of the internal pressure catheter attached to the fetal monitor, or by the hand of the clinician. The physician's hand is a better transducer than the external toco-dynaomometer. An experienced obstetrician can easily tell the difference between strong contractions and weak ones. The internal catheter attached to the monitor is particularly good in extremely obese paients and very tense patients who are otherwise difficult to examine.

After evaluating the size of the pelvis, the fetal position and the quality of labor, the clinician is in a good position to identify whether the patient has a good prognosis or a bad prognosis for delivery in the next several hours. If the prognosis is poor, as identified by a small pelvis, a large baby or one in an abnormal position, particularly in the presence of an abnormal labor, cesarean section is ordinarily elected at this time. More often things will not be quite so clear cut. I feel that if the pelvis is contracted in any one of three diameters, cesarean section can be elected at this time.

The pelvic measurements I use to separate a normal pelvis from a contracted one are: A-P of the inlet of ten cm, transverse of the inlet 11.5 cm, and an interspinous diameter of 9.5 cm or less. If the x-ray (done with a perforated metal ruler placed at the midplane of the pelvis) shows any of these diameters to be contracted, I feel that cesarean section should be accomplished without further waiting, because the cause of the failure to progress is obvious and the chance for easy vaginal delivery is markedly reduced. In the absence of a contracted pelvis, I feel that hypotonic uterine inertia (inadequate labor) should be treated by a trial of oxytocin augmentation. Approximately 20% of abnormal labors will be of the hypertonic variety in which the uterus never seems to contract very well but never seems to relax very well either. Such a pattern is obvious when monitored by the internal catheter technique. When the hypertonic variety of uterine inertia is encountered, I feel that oxytocin will not be helpful because it ordinarily doesn't improve the labor and it may produce fetal distress. Narcotic-induced rest or epidural anesthesia with rehydration are occasionally rewarded by resumption of a normal labor pattern.

The management of abnormal presentations requires more judgement. Essentially all varieties of occiput posterior or occiput anterior can be managed by allowing a con-

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Warren M. Crosby, MD, was graduated from the University of Kansas School of Medicine and is Professor of Gynecology and Obstetrics at the University of Oklahoma Health Sciences Center. Certified by the American Board of Obstetrics and Gynecology, Dr Crosby is a member of the American Association of Gynecologists and Obstetricians, Society of Gynecologic Investigation and Association of Professors of Gynecology and Obstetrics.

tinuation of normal labor or augmenting a hypotonic labor if the pelvis is normal. The management of more difficult presentations requires a knowledge of their usual outcome. Brow presentation for instance is relatively unusual and is identified by the palpation through the cervix of the supraorbital ridges and the bridge of the nose. Brow presentations ordinarily will require delivery by cesarean section, but as long as labor is not unduly prolonged, some may deliver vaginally by either flexion into a vertex position or extension into a face presentation as the cervix becomes completely dilated. Face presentation is sometimes difficult to separate from a breech presentation, but the x-ray will always make this distinction. When the chin is posterior in the second stage of labor the prognosis for vaginal delivery is poor. A cesarean section is ordinarily recommended. When the chin is anterior, the same diameters of the head are presented to the pelvis as with a well-flexed vertex presentation and one can expect an easy vaginal delivery when the pelvis and the labor are normal.

When the baby's head becomes arrested in the transverse position, it is ordinarily described as a high transverse arrest or a low transverse arrest. High transverse arrest (in which the presenting part is from 0 to +2 station) is ordinarily managed by the use of Barton forceps which were designed for this purpose. These forceps should be used only when the pelvis is known to be adequate and the labor is normal. Similarly a low transverse arrest with a presenting part at +2 to +3 station, is ordinarily managed with a Kielland forceps which were designed for this application. Rotation from occiput posterior to occiput anterior with the usual type of forceps may be accomplished when the labor and the pelvis are normal and the head deep within the pelvis (+2 or +3 station). Each of these forcep applications are termed mid-forceps. Mid-forceps are either easy, (with the forceps going on easily, the rotation progressing with minimum force, and traction progressing to delivery with a minimum of effort) or difficult. Difficult mid-forceps, where any of these maneuvers is other than "easy" should be abandoned in favor of cesarean section. Mid-forcep operations should be done in a sort of double set-up. By this I mean that all preparations should be made for a cesarean section, with an anesthetist and the operating team ready to go. Then the patient can have the trial forceps application and if they go on easily, the rotation occurs easily, and the baby delivers easily, then you have accomplished what you set out to do with appropriate anesthesia. On the other hand if the forcep application is difficult, cesarean section can be quickly accomplished with a minimum of difficulty. High forceps (presenting part at 0 station or above) are too traumatic and have been entirely replaced by cesarean section.

SHOULDER DYSTOCIA

Earlier in this commentary I spoke of large babies. I said that babies that weigh or are estimated to weigh more than 4500 grams or ten pounds should be delivered abdominally. This is because of the threat of shoulder dystocia. About one out of six babies who weigh ten pounds or more will have shoulder dystocia. In this situation the head of the baby is delivered but immediately snaps back against the perineum because the shoulders will not enter the pelvis. In this situation the shoulder is impinged on the symphysis pubis or the sacral promontory. The best management is to rotate the body of the baby 180° by pushing the shoulders either clockwise or counter-clockwise in a propeller like manner. The rotation will bring the high shoulder underneath the bony prominence and enable descent and delivery. Extreme downward pressure on the neck may result in an Erb's palsy or other severe injuries to the baby. The only other maneuver is to deliver the posterior shoulder before the anterior shoulder. When this is attempted, the baby often ends up with a fractured clavicle or humerus or both. The rotational maneuver is far superior and almost always works. It is better to avoid the shoulder dystocia entirely by delivering patients with massive babies abdominally.

SUMMARY

1. Look for clues or obstructed labor.
2. Evaluate pelvis, presentation and quality of labor.
3. Mid-forcep operations should be done only after preparations for cesarean delivery have been made.
4. Fetuses thought to weigh over ten pounds should be delivered abdominally.

COMPUTED TOMOGRAPHIC SCANNING OF THE BRAIN

NATIONAL INSTITUTES OF HEALTH CONSENSUS DEVELOPMENT CONFERENCE STATEMENT

November 4-6, 1981

A Consensus Development Conference held at the National Institutes of Health (NIH) on November 4, 5, and 6, 1981, reviewed scientific evidence related to computed tomographic scanning (CT) of the brain.

At NIH, the Consensus Development Conference brings together investigators in the biomedical sciences, clinical investigators, practicing physicians, and consumer and special interest groups to make a scientific assessment of technologies, including drugs, devices, and procedures, and to seek agreement on their safety and effectiveness.

On the first two days of the meeting, a Consensus Development Panel and members of the audience heard evidence presented on the following key issues:

> What are the indications and contraindications for employing CT scanning for diagnosis of intracranial lesions? How much radiation is delivered by presently available CT scan equipment? To what extent has CT scanning influenced the management of intracranial disorders? Has the availability of CT brain scanning influenced the use of other methods of imaging the brain? What is the practical limit of definition of CT scanning?

Members of the panel included physicians and scientists representing biomedical research, radiology, pediatric and adult neurology, neurosurgery, radiation therapy, radiation physics, critical care medicine, family practice, hospital administration, health economics, and other fields relevant to a discussion of CT.

CT is a remarkable new development in radiographic imaging which, in only eight years, has transformed the diagnosis and much of the management of structural disease of the brain and its surrounding tissue. Presentation by experts from a variety of fields indicated that CT is a safe, accurate, and powerful tool in the primary diagnosis of, among other conditions, brain tumors, brain hemorrhages, effects of major head injury, and certain infections of the brain. Given its speed, accuracy, and low radiation dosage, CT has displaced a number of other radiologic diagnostic procedures, many of which are, in comparison, more uncomfortable, more dangerous, and more costly to the patient.

The panel considered the geographic distribution of CT scanners and the current patterns of diagnostic usage. Two important considerations emerged. It appears that in the US today, CT may not be sufficiently availa-

ble for the public to derive the full benefit of this diagnostic tool. Evidence points to an insufficient number of instruments in several large metropolitan areas, in medically underserved areas, and in some sparsely populated regions where the prevalence of head trauma is high. In some instances, however, the indiscriminate use of CT has occurred in patients unlikely to have structural disease, resulting in displacement of patients for whom this technology is critical. Accordingly, this consensus report suggests appropriate criteria for the use of CT in present medical practice.

1. What are the indications for employing CT scanning as a primary or secondary diagnostic tool for intracranial lesions?

CT is the most useful diagnostic study available for a number of intracranial disorders. Its efficacy, particularly in the detection of traumatic and neoplastic lesions, is well established. There is evidence that CT has been a major factor in decreasing morbidity and mortality, especially in severe head injury and brain abscess. The presence of the former or suspicion of the latter present clear indications for CT.

CT detection of intracranial tumors is now so well established that the suspicion of any intracranial mass lesion from history or neurological examination constitutes a strong indication for this procedure. Spontaneous intracranial hemorrhage is also readily detected by CT and often represents another prime indication. Suspicion of arteriovenous malformation, hydrocephalus, herpes encephalitis, parasitic infestations, and progressive degenerative diseases of the brain generally constitutes an indication for CT.

For most cerebral vascular ischemic events, including transient ischemic attacks (TIAs), CT may not be required to make the diagnosis. The procedure, if available, is a helpful adjunct when using anticoagulant therapy. CT will clearly distinguish infarction from hemorrhage when that distinction must be made. CT will also detect lesions such as meningiomas or subdural hematomas. This discrimination is particularly important in the small percentage of patients with these conditions who have transient symptoms similar to TIA.

CT should not be employed as a routine screening procedure when a low diagnostic yield is anticipated. There is little indication for the procedure following minor head trauma, simple or periodic headache, syncope, or dizziness unattended by other neurological symptoms or signs. Most patients with headache should be considered for CT scanning only if the symptom is severe, constant, unusual, or associated with abnormal neurological signs.

In adults with seizure disorders the indications are variable. CT is essential when seeking a potential structural cause of complex partial (temporal lobe/psychomotor) or focal seizures and is indicated in any adult with a recent onset of seizures. The finding of an obvious clinical cause for seizures such as a withdrawal state or metabolic disturbance usually obviates the need for CT. If seizures remain uncontrolled and the initial CT was normal, the scan should be repeated at appropriate intervals.

In infants and children, CT is useful as a primary diagnostic tool in the evaluation of intracranial hemorrhage and mass lesions. CT may be used to evaluate patients postoperatively and those who have received radiotherapy.

In children, CT should be considered a primary diagnostic modality in evaluation of severe head trauma, other causes of increased intracranial pressure, undiagnosed coma, progressive focal neurological signs or symptoms, megalocephaly, and selected neurocutaneous syndromes. CT will also detect major congenital anomalies of the brain. It can detect perinatal intraventricular hemorrhage, but transfontanel ultrasonography is the preferred diagnostic procedure in infants under one year of age because of the portability of the ultrasonic equipment and the ease of performing this test.

CT is not necessary in evaluating the majority of children with developmental retardation, cerebral palsy, seizure disorders, or headaches, because the presence of a surgically treatable lesion is extremely low. The clinical situation must, in each case, be considered individually.

2. Are there specific contraindications?

CT is a remarkably safe diagnostic procedure and there are no absolute contraindications to its use. Its employment carries,

nevertheless, potential hazards, as does any diagnostic procedure. These may include: separation of a critically ill patient from intensive medical and nursing care; an adverse response to contrast material; and a possible delay in applying emergency life-saving treatment to immediate life-threatening conditions such as acute arterial epidural hematoma. CT scanning facilities should have immediately available the staff and equipment to manage cardiorespiratory and neurological emergencies. The staff itself should be skilled in methods to prevent movement artifacts.

The use of contrast agents, usually administered intravenously, increases accuracy and may assist in characterizing lesions. The benefits of enhancement must be balanced against the increased risk to the patient should an adverse reaction occur. The total risk of the use of contrast materials is small and the incidence of severe reactions does not exceed 0.04%. Reactions, when they do occur, include allergic manifestations, hypotension, congestive heart failure, the development of renal insufficiency, and possibly adverse effects on the brain. The likelihood of complications is increased by advanced age, the presence of diabetes, cardiac, renal, or cerebral vascular disease and by the administration of large doses of contrast material.

3. How much radiation is delivered during use of currently available CT scan equipment, and how is this dosage commonly expressed?

CT irradiates a transverse section of the skull with a narrow x-ray beam, commonly 10 mm wide in equipment currently available. No single number can completely characterize the dose delivered to that section because the dose is not completely uniform throughout. For many purposes, the use of an average dose per section suffices. Typically, 10 adjacent transverse scan sections, each of 10 mm width are sufficient for examination of the entire brain. The average dose to the entire brain can be estimated from the average dose to each section. In addition to the average dose, the surface dose and doses of other points may also be stated.

The dose delivered to the brain depends upon individual machine characteristics and mode of operation which include the kilovoltage and milliamperage of the x-ray tube, the exposure time and tube current, the beam filtration, the x-ray target-to-patient distance, the CT detectors used, the scan angle, etc. Because modern CT scanners utilize narrow x-ray beams with good radiation shielding, there is little dose delivered to tissues outside the imaged volume. Doses to sensitive organs, such as the thyroid gland and the gonads, which are well outside the useful beam, are much less than that received by the brain. The radiation dose to the lens of the eye is low if it is outside of the area scanned. Scanning should exclude the eye unless it cannot be avoided. Adequate maintenance and proper use of the scanner by trained technicians is necessary to insure that the radiation dose is the minimum required for the examination.

The unit by which dose is expressed is currently undergoing a transition from the commonly used rad (100 ergs/gram) to the gray (1 joule/kilogram). The relationship between the rad and the gray is: 1 gray = 100 rad. In this report, the unit centigray (cGy) will be used (one centigray = 1 rad). The average dose to the brain for a complete scan series ranges from about 1-10 cGy. This range is comparable to or less than the dose from many other procedures commonly used in diagnostic or dental radiology. Thus, as an x-ray procedure, routine CT does not deliver a particularly high radiation dose.

As is the case for all x-ray studies, particular consideration is needed in the examination of infants and children. The effects of repeated cumulative low-level radiation doses to the immature, developing brain (particularly from birth to two years of age) are as yet unknown. Special caution must be exercised in ordering multiple CT scans. In the infant, as noted earlier, ultrasound is often the preferred modality to monitor the status of abnormalities such as hydrocephalus.

Certain practices, including repeated scans, can increase the dose delivered. Special techniques — such as overlapping sections to detect small abnormalities, very thin sections to permit multiplanar reformatting, (a technique in which the data obtained from a series of scans made in one CT plane are reprocessed in the computer to produce images of sections in other planes through the head) slow scans to improve resolution, and dynamic scanning, (multiple sections taken at one location in rapid sequence to observe changing patterns of contrast enhancement) — all in-

crease the radiation dose. These studies may contribute useful information in specific cases but they are not recommended for routine use.

4. To what extent has CT scanning influenced the management of intracranial disorders, such as malignancy, trauma, vascular anomalies, and cerebrovascular disease?

CT has had a major influence in the management of many intracranial disorders. It is a procedure entailing minimal discomfort and morbidity while producing a high degree of diagnostic accuracy. Lowered morbidity and mortality result from the decreased use of invasive diagnostic procedures.

Prompt employment of CT has improved the management of severe head trauma. The identification of traumatic intracranial mass lesions causing increased intracranial pressure has led to early surgical treatment of hematomas, the elimination of unnecessary surgical explorations, and more effective medical management. Evidence suggests that early surgical removal, ie, within four hours, of acute subdural hematomas has decreased mortality and morbidity. In patients with head trauma sequential CT has permitted the identification of expanding intracranial subacute and chronic hematomas leading to an improved outcome.

The management and prognosis of patients with brain abscess have been substantially improved since the introduction of CT. The improvement is probably the result of early diagnosis permitting prompt institution of antibiotic therapy and more accurate determination of whether and when surgical intervention is needed.

In primary brain tumors, and in contrast to other diagnostic modalities, the use of CT has resulted in the detection of smaller lesions and more accurate localization; lowered surgical morbidity and mortality and a decreased length of hospital stay have been the result. In metastatic brain tumors, CT identifies and localizes single and multiple lesions earlier than other techniques, thus permitting optimal treatment of both the metastatic and primary lesions. Postoperative complications due to hemorrhage or edema are identified more accurately, resulting in better treatment. Planning of radiation treatment of brain tumors is aided by CT as is follow-up evaluation after surgery, radiotherapy, and chemotherapy.

CT will usually differentiate between ischemic and hemorrhagic intracranial lesions. This distinction permits selection of patients for medical or surgical therapy. In subarachnoid hemorrhage, CT can obviate the need for lumbar puncture by the demonstration of subarachnoid blood in a high percentage of cases scanned soon after the hemorrhage. It can be helpful in localizing the source of the bleeding and may be useful in predicting development of vasospasm. CT can help to identify the ruptured aneurysm in patients harboring multiple aneurysms and sometimes shows unruptured asymptomatic or symptomatic aneurysms or arteriovenous malformations. In selected cases, this capability has led to better treatment of aneurysms and arteriovenous malformations and the prevention of later complications from these lesions.

5. Has the availability of CT brain scanning influenced the use of other methods for imaging the brain?

The superior ability of the CT examination in the detection of intracranial and intracerebral disease processes has profoundly altered the use of several pre-existing radiographic methods for examining the brain. The modalities of skull roentgenography, geometric cranial tomography, cerebral angiography (arterial and venous), pneumoencephalography, positive contrast cisternography, radionuclide brain scanning, and ultrasonic echoencephalography have all decreased in use. Some of these examinations, notably the most invasive, those causing significant patient discomfort, or those with nonspecific diagnostic results have been affected more than others. Pneumoencephalography, radionuclide scans, and ultrasonic echoencephalography have almost disappeared from the neuroradiologic armamentarium where CT has been available. The utilization of skull roentgenography, geometric cranial tomography, and positive contrast cisternography has declined more recently as "modern" high resolution CT has become available. Such scanners provide bony anatomic information in addition to the unique low-density soft tissue data, available only with CT.

Although the use of cerebral angiography has not diminished to the same extent as the above-mentioned procedures, it is being used less frequently as a screening or diagnostic procedure.

The developments enumerated above have had a favorable impact upon health care delivery. CT scanning has often reduced risk and discomfort for patients. Data indicate that the costs of CT in diagnosis have been substantially offset by a reduction in costs resulting from discontinued procedures and the elimination of equipment needed to carry them out. In some cases net costs of diagnoses have even been reduced. The panel heard evidence that the use of CT in outpatient diagnosis holds the potential for reducing hospital admissions and shortening hospital stay.

The success of CT scanning using x-ray has stimulated interest in tomographic imaging with other radiation sources. Similar computer techniques are being used to reconstruct images of the distribution of radioactive isotopes within the brain, procedures called emission computed tomography (ECT). Two forms of such techniques have been developed related to the type of radioactive materials and the detection system employed. These are single photon ECT (SPECT) and positron emission tomography (PET) scanning. SPECT and PET are able to measure functional variables such as local cerebral metabolism and blood flow that are not measured by CT. They disclose increased vessel permeability when present, which may also be detected on CT by contrast media enhancement. The spatial resolution of these techniques is less than that of CT, and as an imaging device the definition of the anatomic position of the measured function is limited with SPECT and PET. At present, these modalities are being applied in a limited number of institutions and their clinical role in the evaluation of stroke, epilepsy, and the metabolic aspects associated with mental disorders is the subject of ongoing research.

Recently, nuclear magnetic resonance (NMR), a technique using nonionizing forms of energy, has been used to produce sectional images of the human body. A strong magnetic field used in conjunction with a radiofrequency oscillating magnetic field, induces signals from atomic nuclei in tissues. These signals are reconstructed by a computer into sectional images in any plane in the head or body. The significance of the technique in clinical diagnosis remains to be determined. The potential advantages of NMR as compared to CT are the possibilities of providing improved imaging, and of identifying the chemical state of some important nuclei from which energy metabolism can be inferred at low resolution. In addition, the potential hazards associated with ionizing radiation are avoided by NMR. There are no known deleterious effects on tissues or organ systems from the magnetic fields and radiofrequency power densities presently used. The extent to which tissue characterization techniques will yield clinically useful information at practical financial costs has yet to be established.

6. What is the practical limit of definition and resolution in CT scanning that may preclude its value in the diagnosis of brain disease?

CT scanners are designed to detect morphologic abnormalities of the brain. In the opinion of the Panel, most contemporary scanners meet this goal with a high degree of accuracy. They discriminate among lesions depending on contrast and size. The lower limit of resolution is difficult to define, but some scanners are capable of detecting pituitary adenomas as small as three millimeters. Unfortunately, there is no way to know how many "negative" examinations are truly negative or simply due to limitations in the imaging method.

Current limitations in the quality of CT scans lie in spatial and contrast resolution and in scan speed. Dramatic improvements have occurred in these factors since 1973, but it is unlikely that this pace of improvement can be maintained. Improvement in contrast resolution, or the ability to detect a small signal against a noisy background, without increasing the radiation dose, is dependent on increasing dose efficiency which is approaching its theoretical limit. Spatial resolution is dependent on improvements in detector and semiconductor technology and can be expected to improve as these technologies advance. An increase in data obtained from selective sampling will lead to optimizing detection for a given signal to noise ratio; however, to obtain quantitative certainty commensurate with the improved sensitivity, radiation dose must be increased. Scan speed is largely limited by x-ray tube output and

the ability of the x-ray tube anode to dissipate heat. New developments in x-ray tube design will lead to increases in scan speed.

Thus cost and the potential risk of increased radiation dose are the major practical constraints on further advancements in CT technology.

The conference was sponsored by the National Institute of Neurological and Communicative Disorders and Stroke, and cosponsored by the National Cancer Institute. Assistance in planning and conducting the meeting was provided by the Office for Medical Applications of Research, NIH. The names of members of the Consensus Development Panel will be provided upon request.

A bibliography on Computed Tomographic Scanning of the Brain is available from the Office for Medical Applications of Research, Building 1, Room 216, NIH, Bethesda, Maryland 20205. This bibliography was prepared by the Stroke and Trauma Program, National Institute of Neurological and Communicative Disorders and Stroke.

News From The Oklahoma State Department of Health

Oklahoma Immunization Law

Children attending schools and daycare centers in Oklahoma and throughout the United States are required by law to have evidence of adequate immunization or proper exemption against childhood diseases. Strict enforcement of this law has proven to be the single most effective tool in raising and maintaining immunization levels among the school-age population, and is a major factor in recent dramatic declines in measles and other vaccine-preventable diseases nationwide.

The state health department and county health departments closely monitor school systems in Oklahoma to check for compliance and, more importantly, to assess the risks of vaccine-preventable disease outbreaks. Parents of children found to be inadequately immunized or improperly exempted are notified by school officials that they must present evidence of adequate immunization within a reasonable time period if the child is to remain in school.

Parents seeking duplicate copies of immunization records or records indicating that the child has had a disease and, therefore, does not need immunization, may consult their private physician. Children whose immunization status does not meet minimum standards can receive the necessary vaccines through their physician or county health department clinic. The Oklahoma immunization law states that to attend school, a child must have evidence of at least three DTP or Td immunizations, four polio immunizations, and measles and rubella immunization.

Further information is available through the OSDH Immunization Division, (405) 271-4073. □

COMMUNICABLE DISEASES IN OKLAHOMA FOR MARCH, 1982

DISEASE	March 1982	March 1981	February 1982	Total To Date	
				1982	1981
Amebiasis	1	2	2	3	2
Aseptic Meningitis	3	6	3	10	10
Brucellosis	—	1	1	1	1
Encephalitis, Infectious	—	2	4	5	6
Gonorrhea (Use Form ODH-228)	1495	1139	1144	3894	3519
Hepatitis A	58	24	51	125	71
Hepatitis B	20	19	22	52	52
Hepatitis Unspecified	18	14	35	61	40
Malaria	—	1	—	—	2
Measles (Rubeola)	—	1	—	—	3
Meningococcal Infections	3	10	3	9	16
Pertussis	1	—	1	2	1
Rabies (Animal)	25	22	10	49	45
Rocky Mountain Spotted Fever	—	—	—	—	—
Rubella	—	—	1	1	—
Salmonellosis	11	21	12	36	63
Shigellosis	17	13	33	81	37
Syphilis (Use Form ODH-228)	16	23	14	46	46
Tetanus	—	—	—	—	—
Tuberculosis	25	30	40	91	72
Tularemia	1	1	—	1	1
Typhoid Fever	—	1	2	3	4

PLICO Health Enrollment Up As Program Confidence Grows

Demonstrating their confidence in the new PLICO Health program, nearly half of OSMA's membership has signed up to participate in the comprehensive health insurance plan. When members' families, employees, and their dependents are added in, the total number of PLICO Health enrollees swells to almost 10,000.

Besides its broad health coverage, the PLICO plan includes a special "stay well" bonus. Participants who do not use their coverage during a particular policy year receive a $150 refund bonus.

Those eligible for coverage under PLICO Health include OSMA members, their families, and their employees and dependents. The policy has standard deductible options of $100, $200, and $300. After the deductible is met, the plan pays 80 percent of covered expenses until out-of-pocket costs are satisfied. Once these costs are met ($200, $400, or $600, depending on the option), PLICO pays 100 percent of covered expenses.

The open enrollment period for PLICO runs until July 1. After that time, individuals applying for coverage may be required to furnish proof of insurability. For information on PLICO Health, contact the C. L. Frates Company at (405) 848-6727. □

Changes in CHAMPUS Benefits Affect Patients and Physicians

Changes in the Defense Authorization Act that went into effect April 1 will result in lower out-of-pocket costs for beneficiaries of the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). The changes also should increase participation by physicians in the military health program.

The new legislation simplifies the procedure for determining allowable charges for medical services and permits updates to be made every six months instead of annually. CHAMPUS payments thus should reflect more accurately the current fees charged by physicians and other health-care providers.

Under the new procedure, CHAMPUS profides the fees for specific medical procedures charged the year before by health-care providers who billed CHAMPUS. Profiles of professional fees for both inpatient and outpatient services are established for each state. The allowable charge is then set at a level that would cover the fees charged by eight of ten health-care providers.

The changes in CHAMPUS reimbursements are expected to result in an additional $8 million in benefits payments the first year. □

VA Research Award Presented To Oklahoma City Physician

Dr Sami I. Said, chief of pulmonary medicine at the Veterans Administration Medical Center in Oklahoma City and member of the Oklahoma State Medical Association, has received the VA's most prestigious award.

Dr Said was presented with the William S. Middleton award for outstanding medical research over the last 10 years in the Veterans Administration. With it went a check for $5,000.

In his pulmonary medicine research, Dr Said backed the point of view that the lung is a metabolic organ and not just a bellows that draws air in and blows out. He also participated in the discovery of vasoactive intestinal peptide, one of the first peptides identified outside the nervous system.

Dr Said, who came to the United States from Egypt in 1953, has been at the Oklahoma City VA center since July 1981. He also has served as professor of medicine at the University of Oklahoma Health Sciences Center and as chief of the Pulmonary Disease and Critical Care Section at Oklahoma Children's Memorial Hospital. □

Screening System Developed To Reduce X-Rays and Costs

A new, cost-saving method for reducing unnecessary x-rays of limb injuries has been developed by Donald A. Brand, PhD, of Yale University's School of Medicine, with funding from the National Center for Health Services Research (NCHSR).

Brand's screening system applies a set of 14 clinical indicators, including bone deformity, severe swelling, and impaired sensation, which have been pretested for their ability to predict fractures.

The procedure was derived from data obtained on 864 patients admitted to the Yale-New Haven Hospital Emergency Service with acute upper and lower extremity injuries. The patients — all 15 years old and over who had suffered a trauma up to seven days earlier — were examined and treated by five physician assistants (PAs) during a two-year period beginning in October 1977.

The PAs recorded all potentially relevant information from the patient's history and physical examination, including x-ray results. Statistical analysis and review of the data by an expert panel yielded a protocol that recommended x-rays for patients exhibiting any of 14 indicators. Up to 14 percent of extremity x-rays taken at Yale-New Haven's Emergency Service during this period were negative, Brand found.

When the screening protocol was treated on 848 new patients with extremity injuries, x-ray use declined by 8 percent and would have fallen more had not some patients demanded x-rays. One fracture out of 287 was missed, but the treatment was appropriate and the outcome was satisfactory, according to Brand.

"These findings indicate that the screening protocol could save between $79 million and $139 million nationwide without compromising quality of care," Brand said.

The findings of this research were reported in the February 11, 1982, issue of the *New England Journal of Medicine*. A summary of the study, "An X-Ray Screening Protocol for Extremity Injuries," is available without charge from the NCHSR Publications and Information Branch, Room 7-44, Center Building, 3700 East-West Highway, Hyattsville, MD 20782. □

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Chaney Says Excellence Requires Creative Thought and Actions



Initiative, resourcefulness, and creative thought and actions must become the bywords of the medical profession if standards of excellence are to be maintained. This was the ringing theme of the Thomas N. Lynn lecture presented April 20 in Oklahoma City by E. J. Chaney, MD, president of the American Academy of Family Practice.

Dr Chaney pointed out to the audience of physicians that "when we enter the medical profession, we make a commitment to excellence that cannot be viewed as having permanent boundaries." He said that physicians are obligated to look beyond the patient's disease and learn to understand the patient's fears and concerns.

Referring to the shift in national priorities and the cutback in federal funding for health programs and medical education, Dr Chaney emphasized that "if we are to meet the health care needs of the American people, we must summon all of our independent thinking and imagination."

He suggested that deans and faculty of medical schools consider seriously the prediction of an overall physician surplus concurrent with a shortage of family physicians, general internists, and general pediatricians.

"I do know that what is now being promulgated in Washington in the name of statistics is a budgetary issue and not a health care issue," Dr Chaney said. "The result is that we are now confronted with the danger of curtailment of family physicians while maintaining an overbalance of narrow specialization."

Citing the W. K. Kellogg Foundation's grant program to increase family practice residencies, Dr Chaney stressed its resourcefulness in training young physicians to meet community needs.

Challenges for the medical profession will arise in other areas, too, Dr Chaney noted. "The challenge in funding has already arrived at our doorstep," he said. "In addition to fiscal limitations, we will be challenged in the area of privileges as well as in public information and competition."

If there is an overbalance of physicians in narrow specialties, he noted, problems in the area of privilege granting will increase. Dr Chaney emphasized the readiness of the American Academy of Family Physicians to take a strong stand on the issue. He quoted from an AAFP policy statement:

> The AAFP affirms that family physicians should have the opportunity to practice medicine as active staff members in hospitals and should be granted privileges commensurate with their training, experience and demonstrated abilities. The AAFP disapproves of any arbitrary qualification for appointment to hospital staffs beyond those of training, experience, and demonstrated competence as being not equitable and not in the American tradition.

"I have a personal opinion that many privilege problems in the future could arise from our own apathy," Dr Chaney commented. "Indeed, we may already have evidence of a willingness to capitulate to local custom, our own convenience, and such practical considerations as the high cost of professional liability coverage."

Dr Chaney suggested that in the future family practitioners will have to transcend arbitrary customs and gain advanced training in newly developed technological areas.

As for the challenge that physicians face in supplying information to peers and to the public, Dr Chaney urged that it be met by physicians moving beyond the confines of the office to become spokesmen and advocates.

"There are many imaginative ways for us to reach out and to articulate the ideals, realities, and philosophical tenets of medicine," he noted. "The reality is that nothing is more effective than the performance of a good physician."

Physicians are being naive, he said, if they ignore the fact that many people are disenchanted with medical care and physicians. "It's our responsibility to extend ourselves enough to alleviate those problems if possible," he pointed out.

Complaints about physicians' insensitivity to the needs of patients and their families are often justified, Dr Chaney said. "The issue is not the science of medicine," he remarked. "The issue is the art of medicine."

In the final analysis, according to Dr Chaney, the success of the medical profession in meeting the public's need for personal health care will determine how well physicians fare in the face of rising competition. □

MEDICAL-LEGAL SEMINARS

1982 SCHEDULE

June 22	Telephone Collecting	Wichita Falls, TX
June 23	Medical Office Management	Wichita Falls, TX
July 14	Medical Office Management	McAlester
July 28	Medical Office Management	Enid
July 30	Medical Office Management	Woodward
Aug. 4	Medical Office Management	Oklahoma City
August 5	Medical Office Management	Ardmore
August 17	Medical Office Management	Bartlesville
August 19	Medical Office Management	Tulsa
August 26	Medical Office Management	Lawton
August 31	Medical Office Management	Muskogee
September 29	Medical Record Law	Oklahoma City

SUMMER TOUR

July 17-24	Cancun, Mexico	7 Day Tour
	($399 Per Person, Double Occupancy)	5 Day Seminar



For registration information write:
Ed Kelsay
% Medical-Legal Seminars
5131 Classen Blvd., Suite 212
Oklahoma City, OK 73118

Deaths

BOYD VANCE LUCAS, MD
1918-1982

Tulsa thoracic surgeon, Boyd Vance Lucas, MD, died April 9, 1982. Dr Lucas was graduated from the University of Oklahoma College of Medicine in 1942. Following postgraduate study in New York, Dr Lucas established his practice in Tulsa. He was a diplomat of the American Board of Surgery and the American Board of Thoracic Surgery. During the February, 1982 meeting of the OSMA Board of Trustees, he was voted a Life Membership in the association.

CARLTON E. SMITH, MD
1909-1982

Carlton E. Smith, MD, 72, a Henryetta physician since 1937, died April 23, 1982. Dr Smith was graduated from the University of Oklahoma College of Medicine in 1934. He was active in many civic affairs in his community and was named "Henryettan of the Year" in 1981. A general surgeon, Dr Smith served with the Air Force during World War II.

ELLA H. MURRAY, MD
1911-1982

An Oklahoma City and Edmond general practitioner since 1949, Ella H. Murray, MD, died May 3, 1982. A native of Tangier, OK, Dr Murray was graduated from the University of Oklahoma College of Medicine in 1949. She practiced in the Oklahoma City area until 1959 when she moved to Edmond. She was awarded a Life Membership in the OSMA in 1976. □

In Memoriam

1981

Roger C. Good, MD	*June 16*
Frederick G. Dorwart, MD	*June 16*
Joseph W. Kelso, MD	*June 18*
Rufus K. Goodwin, MD	*June 25*
Orville C. Armstrong, MD	*July 9*
Charles F. Paramore, MD	*July 10*
James D. Reynard, MD	*July 21*
Mark R. Everett, PhD	*August 17*
Khalil Ahmad, MD	*August 22*
M. H. Haskell, MD	*August 30*
C. F. Foster, Jr., MD	*October 11*
E. E. Shircliff, MD	*October 23*
S. N. Stone, Jr., MD	*November 9*
James R. Barnes, MD	*December 13*
E. Rankin Denny, MD	*December 16*
John P. Grimes, MD	*December 24*

1982

Frances P. Newlin, MD	*February 16*
James T. Maddox, MD	*February 21*
Joseph F. Messenbaugh, MD	*March 12*
Boyd Vance Lucas, MD	*April 9*
Carlton E. Smith, MD	*April 23*
Ella H. Murray, MD	*May 3*

□

Chickasha Clinic Receives Accreditation from AAAHC

The Chickasha Clinic and its branch at Timber Creek (Tuttle) have been accredited by the Accreditation Association for Ambulatory Health Care, Inc., (AAAHC) for a period of three years.

The accreditation award recognizes substantial compliance with nationally accepted standards concerning rights of patients, governance, administration, quality of care, quality assurance, medical records, educational activities, research, and other services.

Charles Gibson, MD, chief medical executive of the clinic, observed that "this method of measuring the quality of our patient care and other processes is a benefit to both our patients and our staff."

The AAAHC, headquartered in Skokie, Illinois, conducts a nationwide peer-based assessment, consultation, education, and accreditation program for ambulatory health care organizations. The program is designed to assist the health care groups in providing the highest quality care in the most efficient and economically sound manner. □

Facility Planned to House Ill Children and Families

Oklahoma will soon have a home-away-from-home for children who travel with their families to Oklahoma City for treatment of cancer, leukemia, spina bifida, and other serious handicaps.

The Ronald McDonald House, as the facility is called, will be established and operated by Children's Tomorrow House, Inc., a not-for-profit Oklahoma corporation. More than 30 such houses are open and operating across the country.

The house will include single family bedrooms and common areas for cooking, dining, and recreation. It is designed to eliminate expensive arrangements for lodging and meals when families bring their seriously ill children to Oklahoma Children's Memorial Hospital for extended treatment. A nominal fee is asked for staying in the house.

The Ronald McDonald House will be built at NE 14th Street and Lottie Avenue. Groundbreaking is expected later this year. Cost of the land, construction, and furnishings is projected to be between $400,000 and $425,000, depending on donated services and materials.

Oklahoma's McDonald's operators and corporate stores have pledged $150,000 over a three-year period for the house. An additional $25,000 will be provided by the Ray Kroc fund. Contributions for the house should be directed to Children's Tomorrow House, Inc., PO Box 73401, Oklahoma City, OK 73152. □

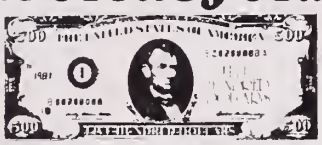
OSMA's New Employee Workshop Set for June in Oklahoma City

The OSMA-sponsored "New Employee Workshop" will be held June 26 at the Lincoln Plaza Hotel in Oklahoma City. The workshop is designed for newly hired medical office personnel and is taught by members of the OSMA executive staff.

Workshop sessions cover a variety of important subjects, including the physician's role, medical ethics, drugs and prescriptions, hospital privileges and relations, malpractice prevention, and effective communications.

Tuition for the workshop is $25 per person. To register, send the names of the employees who will attend, the name, address, telephone and specialty of the employing physician, and the tuition fee to the Oklahoma State Medical Association, 601 NW Expressway, Oklahoma City, OK 73118. Please indicate that the application is for the June 26 workshop in Oklahoma City. □

Fabulous Money Machine?



If you owned a machine that printed a brand new $500 bill each week, you'd be most fortunate wouldn't you? But, what if this very special machine had parts that could not be replaced? As a prudent person in control of such a machine you would want some assurance that if the machine stopped producing $500 bills, you could still receive them, wouldn't you?

Physicians are high-achieving professional breadwinners and can be compared to "money machines". But, they are also human beings, who because of their profession, have a greater than average understanding of the prospects of unexpected accidents and illnesses which can impair or destroy their income producing ability.

Through the Oklahoma State Medical Association Group Disability Program, you have the opportunity to obtain assurance of uninterrupted income if your health should fail.

Three plans are available. Plan L-65 pays accident benefits for lifetime. Sickness benefits are payable to age 65, or for a 2-year maximum period if disability begins between ages 63 and 70. Benefits are payable for 10 years based on being unable to perform every duty of your occupation, thereafter, based on being unable to perform the duties of any gainful occupation for which you are reasonably fitted.

Semi Annual Premium — Benefit payable after 8 days for sickness, first day for accidents.

Plan L-65

WEEKLY INDEMNITY	UNDER AGE 30	AGE 30-39	AGE 40-49	AGE 50-59	AGE 60-69
$500.00	$301.50	$346.50	$476.50	$641.50	$418.50*
400.00	241.50	277.50	381.50	513.50	418.50*
300.00	181.50	208.50	286.50	385.50	418.50
200.00	121.50	139.50	191.50	257.50	279.50
100.00	61.50	70.50	96.50	129.50	140.50



For full particulars, contact JANE GRIFFITH

C. L. FRATES & COMPANY, INC.
Administrator, OSMA Group Insurance Plans
720 N.W. 50th Street, Oklahoma City, OK 73118 (405) 848-7661

DRUGS AND DIRTY TRICKS

My patient, a 56-year-old woman, suffered with a chronic seizure disorder and was well controlled on a multi-drug regime which included a controlled substance, popular as a "street" drug. Her prescriptions were carefully monitored and detailed entries were made in her record each time a refill was authorized citing the appropriate date, hour, name of drug, strength and quantity. For several years, there were no discrepancies in her use of the drug; the quantities prescribed correlated precisely with the quantities taken and the dispensing intervals.

On one occasion, about two years ago, my patient's pharmacist called my office for a renewal of the classified-drug prescription. The call was recorded on the standard form used in my office and the form was placed on my desk, attached to the patient's chart. I noted the date of the most recent refill authorization and was surprised to discover that, according to the prescribed doses, the patient should have had a ten-day supply still on hand. I asked my nurse to contact the patient and investigate. Yes, she had requested a refill and Yes, her supply of the drug was exhausted and No, she had not increased her dosage, lost any of the tablets or been in any circumstance that might have increased the likelihood of theft or pilferage.

I called the patient and talked with her personally, explaining the discrepancy and suggesting that the only remaining possibility was that her last refill had not contained the quantity prescribed, being about 20 tablets short. She then reported that she had been patronizing a different pharmacy, was not pleased with her choice and, in view of this development, she would "go back to (her) old store." I asked her if she would mind returning to her current shop, picking up her refilled prescription and, before leaving the counter, opening the bottle and counting the number of tablets it contained. The suggestion horrified her, judging from her response.

"Oh, my goodness, I couldn't do that! I would be so embarrassed. And besides, it's all I can do to tear open the sacks they put the bottle in — with all those staples in them. I don't try to open them until I get home where I can cut them open with my scissors.

"No, doctor, I would like to help but I don't want to get involved in that sort of thing. I just couldn't do it!"

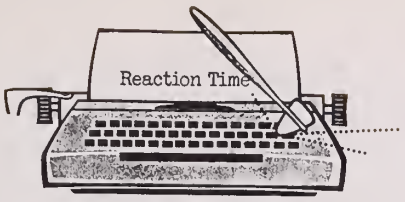
Realizing that my request was a bit presumptuous, I quickly modified it and asked if she would pick up the prescription at her current pharmacy and, after she got home, count the number of tablets it contained. Of course, as we agreed, such evidence could not be used in a formal complaint but it would, at least, provide us with a substantial reason not to patronize the establishment in the future. My relieved patient agreed to this suggestion and carried out the plan.

The results surprised us both. Her prescription, which was approved for a refill upon my call to the pharmacy, ordered that 100 tablets be dispensed. My patient's count, checked and rechecked, revealed 78 tablets in the vial. The receipt, stapled so firmly to the sacks, indicated the prescription file number followed by the figure, "100." The patient paid for 100 tablets. She was given 78 tablets.

At the time, the street value of each of the prescribed tablets was two dollars. I wondered, silently, who would be pocketing the $44 my patient's short-count prescription generated, and the $2.64 she paid for the tablets she did not receive.

Following this experience my patient changed pharmacies and began carefully inventorying each of her prescriptions. Although she does not carry out the inventory on the drug counter, she tells her pharmacist that she will count the tablets in each vial when she gets home.

And I now encourage all my patients to count the number of tablets or capsules actually dispensed with each of their prescriptions. The discrepancies reported are surprising, and the lesson I have learned is worth sharing. □



April 10, 1982

OSMA Editor
A Reply to the OSMA Editorial, March, 1982

I am not defending alcohol abuse or illegal drug use, but I can not agree with M.R.J.'s opinion after making rounds for surgery in a large hospital. In the past 22 years, I have seen a marked predominance of the smoking patients with premature development of heart disease, peripherial vascular disease, cerebral vascular insufficiency. Almost all of the lung cancers, throat cancer and a predominance of urinary tract transitional cell carcinomas are smokers. The large majority of emphysema and bronchectic patients have smoked heavily.

If tobacco is a benign drug, why do these disasterous diseases predominate in the longer term smoker (25 plus pack years). Just what are you defending, a personal freedom or a medical precept?

Victor R. Neal
4651 East 57th Place
Tulsa, Oklahoma 74135

April 13, 1982

Dr. Mark Johnson
Editor in Chief
Journal
Oklahoma State Medical Assn.
601 Northwest Expressway
Oklahoma City, OK 73118

Dear Dr. Johnson:

I was disappointed to read the editorial in the March issue of the Journal entitled "Right Weapon — Wrong Target." For you to make statements such as "it is easy to see that, as a cause of death, the habit of cigarette smoking is hardly in the race with the habit of drinking alcohol" is very difficult for me to understand. Certainly alcohol abuse is a serious problem and the cause of multiple systemic illnesses but the relationship of cigarette smoking to heart disease, cerebral vascular accidents, cancer and respiratory disease can hardly be overlooked. Your statement that is "in my opinion, unrealistic at best" that cigarette smoking is the host of incurable diseases seems to me to be deception and dangerous to our health. I feel that the American Heart Association, American Cancer Society and most of the physicians in the state would also disagree with your opinion.

We have learned from prohibition that we cannot legislate against the habit of drinking alcohol. Neither can we against cigarette smoking. We can educate and inform, however, and reports from the Surgeon General are an attention getting way of doing this, and I very much applaude the Surgeon General for his efforts in this regard. I am sorry to see a representative of the medical profession state in the official journal of the state medical association that to issue reports against cigarette smoking is "firing cannons at gnats." Rather than criticize we might send the Surgeon General a letter applauding his report and recommending that similar studies and reports be carried out in regard to alcohol abuse, drug abuse, etc. As I say, I am dismayed and a little angry at your critical editorial.

Sincerely,

Neil M. Glass, D.D.S., M.D.

NMG:jl

May 18, 1982

Mark R. Johnson, M.D.
Editor In Chief
Journal of the Oklahoma State
Medical Association
601 Northwest Expressway
Oklahoma City, OK 73118

Dear Dr. Johnson:

Under your inspired leadership the *Journal* has become exemplary among state medical journals not only by virtue of its excellent selection of original articles and case presentations, but also because of the obvious effort it makes to keep our state physicians in-

formed on political and ethical situations of concern to them. I have particularly enjoyed your editorial comments which have so often and ably expressed what I would term "The informed view." It is, thus, with dismay that I read your editorial in the March issue of the *Journal* entitled, "Right Weapon-Wrong Target." The apology offered in the opening sentence of that editorial is perhaps sufficient for a cocktail discourse. It is, in my opinion, less easily justified in an unsolicited, editorial comment in our state medical journal. Editors obviously have certain prerogatives in choosing their subject matter; however, this does not excuse them from doing their homework. A look at the data may be enlightening. For the year 1977, if one considered only the total number of deaths in this country from lung cancer and from emphysema, one comes up with a figure of 106,886. If one then compares that with the total deaths attributable to suicide, homicide and cirrhosis of the liver for the same year, one reaches a figure of 74,884. It has been estimated that two-thirds of the accident deaths in the age group greater than 15 in this country are associated with motor vehicle accidents. It has also been estimated that 50% of these motor vehicle accidents are contributed to by alcohol. If one adds the resulting total of 31,196 to the previous figure of 74,884, the sum is 106,080, still less than the total number of deaths in that year from lung cancer and emphysema alone. This still does not take into account the enormous role which cigarette smoking plays in arteriosclerotic heart disease, cerebral vascular disease, nonpulmonary neoplasms, congenital anomalies, and perinatal death rates.

I have taken the liberty of enclosing xerox copies of some graphs and charts which appeared in the January-February 1981 issue of *Ca-A Cancer Journal for Clinicians.* Among the most distressing trends evident from thse statistics is the very sharp rise in lung cancer in both males and females. To place this more sharply in focus, it is currently predicted that by the year 1985 primary carcinoma of the lung will supplant carcinoma of the breast as the number one cancer killer in females in this country.

I hope that you will not consider this letter impertinent. My letters to you as the editor of this journal have been complimentary in the past and I presume they will be so again in the future; nevertheless, on this issue I believe that you have committed a breach of your editorial responsibility to know the facts before you commit yourself to print. In failing to do so, you have done a disservice not only to the medical community which has read and perhaps been influenced by your editorial, but also to the people of our state who will in turn be influenced by their physicians.

Sincerely yours,

Lynn H. Harrison, Jr., M.D.
Assistant Professor
Thoracic Surgery

Ronald C. Elkins, M.D.
Professor and Chief
Section of Thoracic Surgery

LHH; RCE: ap

May 21, 1982

Dr. Mark Johnson
Editor-in-Chief
Journal American State Medical Association
601 N.W. Expressway
Oklahoma City, Oklahoma 73118

Dear Dr. Johnson,

I totally agree with the philosophy you expressed in your article in the March 1982, OSMA Journal, entitled, "Right Weapon - Wrong Target".

I agree that it is time for Doctors to deal more directly with the obvious epidemic of alcoholism that exists. The "sincere delusion" that characterizes the victims of the disease of Chemical Dependency is equally matched by the deception and delusion that our medical profession exhibits towards this disease. It is becoming more apparent that alcoholism and drug addiction is a very treatable condition. Editorials such as yours will help to break this mental block that we Doctors seem to be stuck with.

Congratulations on your fine editorial. Keep up the good work.

Sincerely,

J. V. Simmering, M.D.

Book Reviews

Principles and Practice of Infectious Diseases. Two volumes, By Gerald L. Mandell, R. Gordon Douglas, Jr. and John E. Bennett. New York: John Wiley and Sons, 1979, 2316 pages with illustrations, $72.00.

Principles and Practice of Infectious Diseases is a two-volume textbook containing more than 2,000 pages which provides comprehensive coverage of the field of infectious diseases. It comprises 261 chapters contributed by 173 authors. In the Preface the authors state that the text has been well adapted to allow "the reader to approach an infected patient three different ways: a) by major clinical syndrome, b) by specific etiologic organism, c) by host characteristics for patients who are compromised". The authors have accomplished this objective by a straightfoward and clear discussion of the material and by the use of appropriate tables, charts and illustrations.

Each volume is divided into two parts. Volume I concerns basic principles in the diagnosis and treatment of infectious diseases and the primary clinical syndromes. The first part covers defense mechanisms of the host, microbial virulence factors, epidemiologic aspects, the handling of microbiologic specimens and anti-infective therapy. The second part covers the common infectious diseases and the principal clinical syndromes. Volume II, which also consists of two parts, treats infectious diseases and their causes and special problems in management. The first part describes all the important infectious agents and their resultant diseases. The second part covers special problems in the field of infectious diseases including nosocomial infections and infections in the compromised host. Throughout there is excellent integration of clinical and laboratory aspects of various infectious entities. The text is generally well illustrated and amplifies well the written text; however some of the color plates are not of high quality.

As might be expected in a multi-authored text, there is some unevenness in the quality of the various chapters. However, most deal with the diagnosis and management of infection in a comprehensive and detailed fashion. In most cases the material is quite up to date. Each chapter is well referenced and extensive bibliographies are included for most chapters.

Principles and Practice of Infectious Diseases is an excellent general reference in infectious diseases. The high price of the text will prevent most student and house officers and faculty from owning it. However, it is an essential reference text for hospital and departmental libraries, as well as infectious disease laboratories. It can be well recommended. *Harris D. Riley, Jr., MD*

The Radiology of Tropical Diseases with Epidemiological, Pathological and Clinical Correlation. By Maurice M. Reeder and Philip E. S. Palmer, with contributions by A. C. Johnson and Herman Zaiman. Baltimore and London: Williams and Wilkins, 1981, pages 1030, price: $130.00.

In the foreword Dr. Benjamin Felson states, "Tropical radiology has been a stepchild of our specialty. It encompasses some of the more common diseases in the world, yet we seldom find them discussed in our literature. One reason for this paradox is that the affluent society of the temperate zones seldom suffers from tropical diseases, whereas the underprivileged tropical society has not had the luxury of adequate radiology or of a sufficiency of radiologists." This sums up the reason for this book and explains the need for a comprehensive reference text on this subject.

Great advances in the diagnosis, treatment and prevention of tropical diseases have been made in recent years. It is essential today that every physician knows something about the tropical diseases that he may encounter and where to find quickly the appropriate information. This is particularly true in view of the changes in transportation and communication between different countries.

The book is divided into six major sections. The first deals with major multisystem diseases such as amebiasis, schistosomiasis, Chagas disease, and others. This is followed by five sections dealing with gastrointestinal diseases, chest diseases, soft tissue and bone diseases, malignant diseases, and miscellaneous groups of disorders.

Each chapter contains adequate descriptions of the pathology and clinical presentation of a disease, the laboratory findings, and radiographic findings; where appropriate, the life cycle and geographical distribution of the parasites or organisms are included. The book contains more than 2,000 illustrations. Most of these are photographs of patients,

pathological specimens as well as routine and more specialized radiologic studies. The reproductions are generally of good quality and are well organized. When combined with the text they provide a good account of tropical diseases. Other helpful features are sections dealing with the differential diagnosis of tropical diseases and with the geography of infectious and parasitic diseases. In the latter, there is a grouping of diseases which are most likely to be found in specific geographical areas.

This book is an excellent basic reference. It is certain to be welcome in tropical countries but also in other countries as the mobility of tourists, immigrants and other travelers increases. Its price is steep but it is a valuable addition to the library of hospitals which are likely increasingly to encounter tropical disorders. *Harris D. Riley, Jr., MD*

Miscellaneous Advertisements

GENERAL SURGEON, BOARD CERTIFIED, 34, broadly trained all fields, desires position near Tulsa or Oklahoma City. Partnership or group preferred. Completing military obligation and available June, 1983. Reply Key H, The Journal, Oklahoma State Medical Association, 601 NW Expressway, Oklahoma City, OK 73118, for CV and details.

MD, FAMILY PRACTICE, MINOR EMERGENCY CLINIC in South Oklahoma City is now accepting applicatlons. No night call., competitive salary with profit sharing. Paid malpractice, BC/BS. Please call Linda at (405) 631-3636 for appointment with Medical Director.

PEDIATRICIAN SEEKS SOLO, GROUP OR PARTNERSHIP PRACTICE in or around Oklahoma City. Could assume active practice for consideration: Contact Key P, The Journal, Oklahoma State Medical Association, 601 NW Expressway, Oklahoma City, OK 73118.

STAFF PHYSICIAN NEEDED for the Charles B. Goddard Student Health Center on the campus of the University of Oklahoma. Progressive college town life with abundant cultural and educational opportunities. One of the finest Student Health Services in the country provides excellent nursing, laboratory, x-ray, physical therapy, dietary, mental health and pharmacy services for a staff of nine physicians. Good working environment and benefits: life, health, AD&D, and dental insurance, paid vacation and sick leave, Retirement and more. Flexible scheduling allows personal time off. Salary and benefits total $55,000. Send CV and references to Carl S. Whittle, Administrator 620 Elm Avenue, Norman, Oklahoma 73069 (405) 325-4611.

EXPANDING 24-PHYSICIAN MULTISPECIALTY CLINIC in booming economic area has an immediate opening for an ophthalmologist, general surgeon, OB/GYN and internist. Other specialty areas needed as expansion is completed in 1983. Inquiries confidential. Send CV and three references to: Recruiting Coordinator, Chickasha Clinic, PO Box 1069, Chickasha, OK 73018.

FAMILY PRACTICE OPPORTUNITIES in Southeast Kansas and in several areas of Missouri. Solo, group or associated practice. Immediate openings. Please call Deanna Feldman, Health Resources, Ltd. (816) 587-0920.

INTERNIST, PULMONOLOGIST, FLEX. Board certified, ABIM and pulmonary medicine. Seeking solo, group or partnership in any location. Willing to do some internal medicine. Available July, 1982. Contact: K. Shah, MD, 44-36 Ketcham Street, Elmhurst, New York 11373. (212) 426-2231 or (212) 240-1209.

CLAY ADAMS LAB EQUIPMENT. Reasonably priced, $4,800. 1. Cell counter HA-4, 2. chemistry analyzer, Accustat. Approximately two years old. Excellent condition. Call (405) 751-7003.

FOR RENT: OFFICE SPACE with x-ray and laboratory facilities. Mid-town, Oklahoma City area. 235-6461.

INDUSTRIAL CLINIC NEEDS PHYSICIAN. Interested in private practice of occupational medicine. Salary negotiable. Early partnership. Good working conditions. Write 1015 North Shartel, Oklahoma City, OK 73102 or call (405) 232-6144. □

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Beware of the so called *claims-made* professional liability policy. By its nature, the coverage is promised for only one year. An *occurrence* policy — like PLICO's — has lasting value you can count on.

For example, a *claims-made* company will defend you and pay claims only if they are reported while the policy is in force — a year-to-year form of insurance *insecurity*. And what if you quit the company or it quits you? Then you have to breathe new life into the insuring agreement by paying *one, two or three times the annual premium* just to have the privilege of reporting claims which may come to light only after the policy has expired. Another bad feature of "claims-made" insurance is that some physicians may be beguiled into buying it through a deceptively-priced "introductory" premium, only to discover that they are *automatically* programmed for rate increases over the next four years.

By contrast, the *occurrence* policy of PLICO is on your case for all professional services you perform during the policy period — regardless of when the claims are known and reported! There are no "automatic" rate increases at PLICO. True Oklahoma loss experience always governs its cost.

So, doctor, you can buy professional liability insurance *by the year or by the career.* The career-oriented PLICO policy is obviously superior. And you have a promise from us that the *real* cost of your insurance will be revealed up-front — no extra-buck surprises for you later on.

plico

Physicians Liability Insurance Company

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HOUSTON PLACE HOTEL



Houston Place at the Medical Center is a full-service luxury hotel located directly adjacent to one of the world's outstanding medical centers, the Texas Medical Center in Houston, Texas.

Functional and elegant, Houston Place Hotel was specifically designed with the advice and council of physicians and hospital administrators to serve the Medical Center.

Houston Place Hotel, located next to the Medical Center complex, places everything within easy reach. Outpatients, patients, their families and friends, business executives and visiting professionals, all can save substantial time, effort, and expense by staying at Houston Place.

Houston Place Hotel provides convenient and regularly scheduled free transportation to any location in the Texas Medical Center. Additionally, transportation to Houston's shopping malls, such as the Galleria, and to business complexes, and airports can also be arranged by the concierge.

Houston Place at the Medical Center is a world-class hotel that offers an array of special services designed to meet the unique needs of the patrons of the Texas Medical Center.

From a physician on call 24 hours a day... to special diets available in the hotel restaurant... to a concierge, Houston Place has been meticulously planned and professionally staffed for the comfort and needs of its guests.

In addition, the hotel is designed and equipped to accommodate guests who require special care, many of whom stay in Houston for extended periods of time. Guests have the choice of preparing their own meals in the suite's kitchen, or dining at the La Terazza Restaurant. Groceries can be purchased at the Gift Shop, along with gifts and sundries. Special attention has been paid to international guests with the inclusion of private safe deposit boxes and telex service and a multi-lingual staff.

Houston Place Hotel also offers the superb La Terazza Restaurant. Its extensive menu features excellent cuisine and beverages, plus special diets planned by professional dietitians. The warm and relaxing atmosphere is as superb as the cuisine.

For reservations or information, write, phone, cable or telex: Houston Place Hotel at the Medical Center, 6800 Main St., Houston, Texas 77030 / AC 713-528-7744/
Cable: HOUPLACEHOU/
Telex: 775774

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Prescribe for your patients as you would for yourself.

Write "D.A.W.," "No Sub," or "Medically Necessary," as your state requires, to make sure your patient receives the original allopurinol.

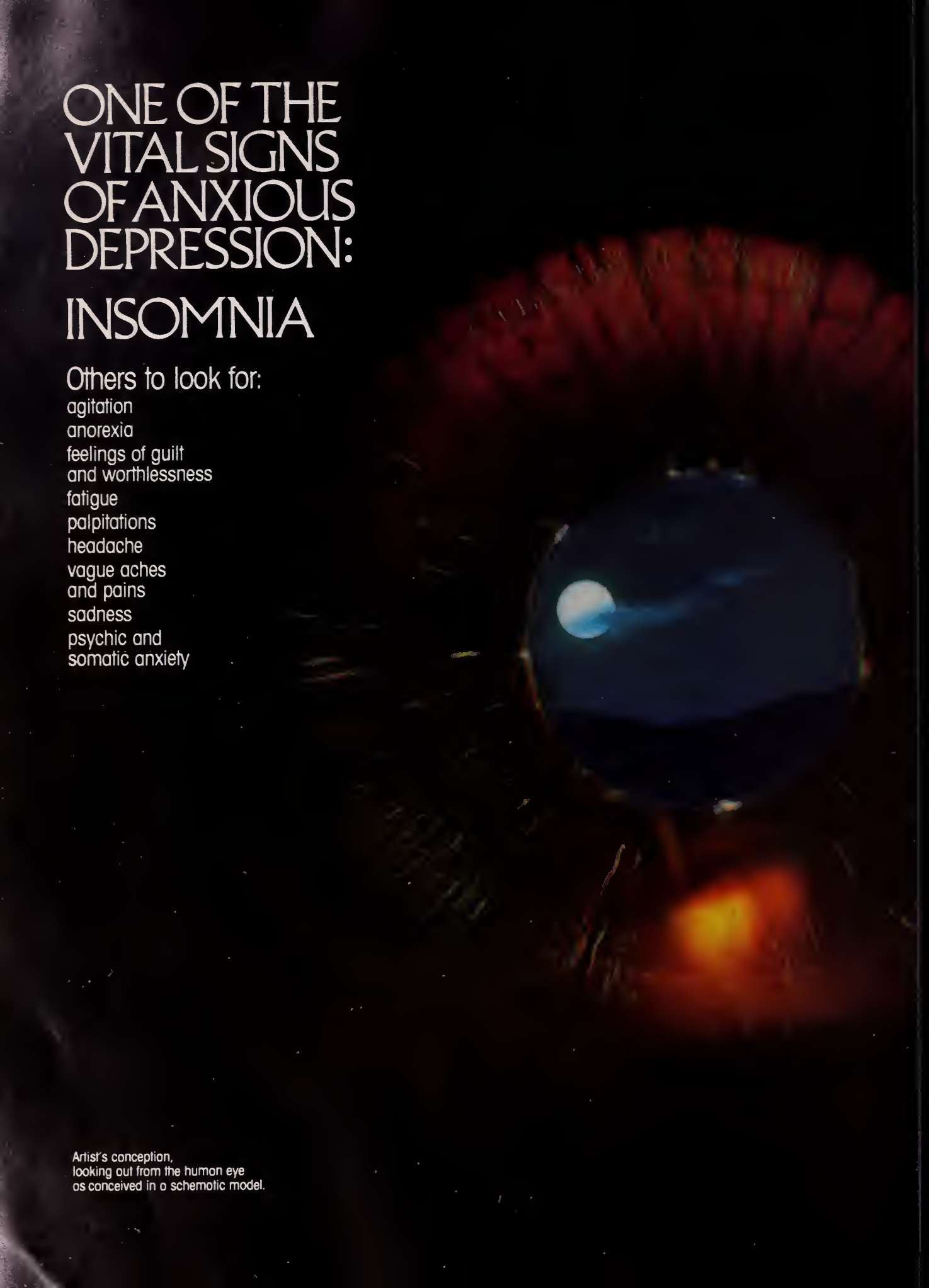
Wellcome / **Burroughs Wellcome Co.**
Research Triangle Park
North Carolina 27709

ONE OF THE VITAL SIGNS OF ANXIOUS DEPRESSION:

INSOMNIA

Others to look for:

agitation
anorexia
feelings of guilt and worthlessness
fatigue
palpitations
headache
vague aches and pains
sadness
psychic and somatic anxiety



Artist's conception,
looking out from the human eye
as conceived in a schematic model.

ROCHE

LIMBITROL GIVEN H.S.: ONE OF THE VITAL SPECIFICS OF TREATMENT

Limbitrol brings a special—and specific—quality of relief to most anxious depressed patients. Insomnia, for example, responds with particular promptness. Other symptoms likely to respond within the first week of treatment include anorexia, agitation and psychic and somatic anxiety. And, as the depression and anxiety are alleviated, in many cases so are such related somatic symptoms as headache, palpitations, and various vague aches and pains.

Limbitrol given once daily h.s. may be the best approach

Many patients respond readily to a single bedtime dose of Limbitrol, a convenient schedule that may enhance compliance and helps relieve the insomnia associated with anxious depression. Limbitrol also offers a choice of other regimens: t.i.d., or a divided dose with the larger portion h.s. In all cases, caution patients about the combined effects with alcohol or other CNS depressants and about activities requiring complete mental alertness, such as driving or operating machinery.

in moderate depression and anxiety

Limbitrol® 5/12.5 10/25

Tablets 5-12.5 each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)
Tablets 10-25 each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt)

Specific therapy with h.s. dosage convenience

Please see summary of complete product information on following page.

LIMBITROL® TABLETS Tranquilizer—Antidepressant
Before prescribing, please consult complete product information, a summary of which follows:
Indications: Relief of moderate to severe depression associated with moderate to severe anxiety
Contraindications: Known hypersensitivity to benzodiazepines or tricyclic antidepressants. Do not use with monoamine oxidase (MAO) inhibitors or within 14 days following discontinuation of MAO inhibitors since hyperpyretic crises, severe convulsions and deaths have occurred with concomitant use. Then initiate cautiously, gradually increasing dosage until optimal response is achieved. Contraindicated during acute recovery phase following myocardial infarction.
Warnings: Use with great care in patients with history of urinary retention or angle-closure glaucoma. Severe constipation may occur in patients taking tricyclic antidepressants and anticholinergic-type drugs. Closely supervise cardiovascular patients. (Arrhythmias, sinus tachycardia and prolongation of conduction time reported with use of tricyclic antidepressants, especially high doses. Myocardial infarction and stroke reported with use of this class of drugs.) Caution patients about possible combined effects with alcohol and other CNS depressants and against hazardous occupations requiring complete mental alertness (e.g., operating machinery, driving).
***Usage in Pregnancy:* Use of minor tranquilizers during the first trimester should almost always be avoided because of increased risk of congenital malformations as suggested in several studies. Consider possibility of pregnancy when instituting therapy; advise patients to discuss therapy if they intend to or do become pregnant.**
Since physical and psychological dependence to chlordiazepoxide have been reported rarely, use caution in administering Limbitrol to addiction-prone individuals or those who might increase dosage. Withdrawal symptoms following discontinuation of either component alone have been reported (nausea, headache and malaise for amitriptyline; symptoms [including convulsions] similar to those of barbiturate withdrawal for chlordiazepoxide).
Precautions: Use with caution in patients with a history of seizures, in hyperthyroid patients or those on thyroid medication, and in patients with impaired renal or hepatic function. Because of the possibility of suicide in depressed patients, do not permit easy access to large quantities in these patients. Periodic liver function tests and blood counts are recommended during prolonged treatment. Amitriptyline component may block action of guanethidine or similar antihypertensives. Concomitant use with other psychotropic drugs has not been evaluated; sedative effects may be additive. Discontinue several days before surgery. Limit concomitant administration of ECT to essential treatment. See Warnings for precautions about pregnancy. Limbitrol should not be taken during the nursing period. Not recommended in children under 12. In the elderly and debilitated, limit to smallest effective dosage to preclude ataxia, oversedation, confusion or anticholinergic effects.
Adverse Reactions: Most frequently reported are those associated with either component alone: drowsiness, dry mouth, constipation, blurred vision, dizziness and bloating. Less frequently occurring reactions include vivid dreams, impotence, tremor, confusion and nasal congestion. Many depressive symptoms including anorexia, fatigue, weakness, restlessness and lethargy have been reported as side effects of both Limbitrol and amitriptyline. Granulocytopenia, jaundice and hepatic dysfunction have been observed rarely.
The following list includes adverse reactions not reported with Limbitrol but requiring consideration because they have been reported with one or both components or closely related drugs:
Cardiovascular: Hypotension, hypertension, tachycardia, palpitations, myocardial infarction, arrhythmias, heart block, stroke.
Psychiatric: Euphoria, apprehension, poor concentration, delusions, hallucinations, hypomania and increased or decreased libido.
Neurologic: Incoordination, ataxia, numbness, tingling and paresthesias of the extremities, extrapyramidal symptoms, syncope, changes in EEG patterns.
Anticholinergic: Disturbance of accommodation, paralytic ileus, urinary retention, dilatation of urinary tract.
Allergic: Skin rash, urticaria, photosensitization, edema of face and tongue, pruritus.
Hematologic: Bone marrow depression including agranulocytosis, eosinophilia, purpura, thrombocytopenia.
Gastrointestinal: Nausea, epigastric distress, vomiting, anorexia, stomatitis, peculiar taste, diarrhea, black tongue.
Endocrine: Testicular swelling and gynecomastia in the male; breast enlargement, galactorrhea and minor menstrual irregularities in the female and elevation and lowering of blood sugar levels.
Other: Headache, weight gain or loss, increased perspiration, urinary frequency, mydriasis, jaundice, alopecia, parotid swelling.
Overdosage: Immediately hospitalize patient suspected of having taken an overdose. Treatment is symptomatic and supportive. IV administration of 1 to 3 mg physostigmine salicylate has been reported to reverse the symptoms of amitriptyline poisoning. See complete product information for manifestation and treatment.
Dosage: Individualize according to symptom severity and patient response. Reduce to smallest effective dosage when satisfactory response is obtained. Larger portion of daily dose may be taken at bedtime. Single *h.s.* dose may suffice for some patients. Lower dosages are recommended for the elderly. Limbitrol 10-25: initial dosage of three to four tablets daily in divided doses, increased to six tablets or decreased to two tablets daily as required. Limbitrol 5-12.5: initial dosage of three to four tablets daily in divided doses for patients who do not tolerate higher doses.
How Supplied: White, film-coated tablets, each containing 10 mg chlordiazepoxide and 25 mg amitriptyline (as the hydrochloride salt) and blue, film-coated tablets, each containing 5 mg chlordiazepoxide and 12.5 mg amitriptyline (as the hydrochloride salt)—bottles of 100 and 500, Tel-E-Dose® packages of 100, available in trays of 4 reverse-numbered boxes of 25, and in boxes containing 10 strips of 10, Prescription Paks of 50.

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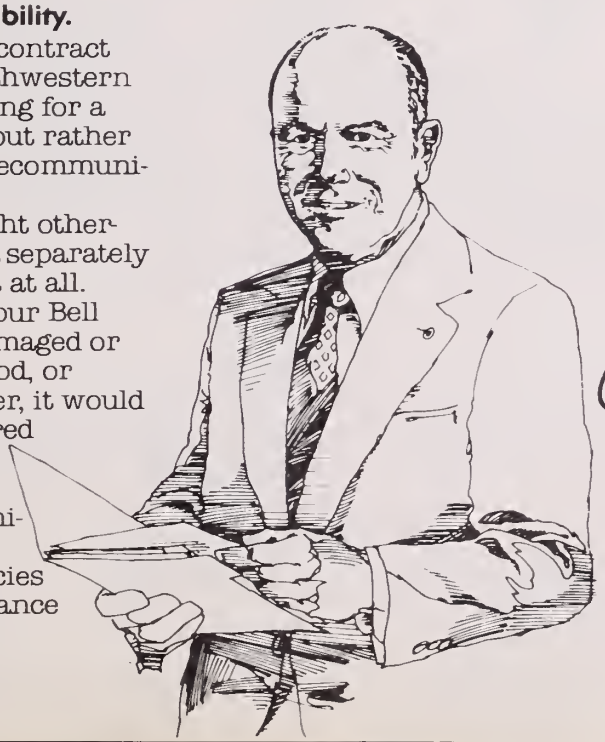
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Relief in seconds. That's how quickly Triva goes to work to help your vaginitis patients. And that's just after their first douche. Within 12 days of recommended treatment with Triva, most cases of trichomonal and non-specific vaginitis are organism-free. (Monilial infection may take a bit longer.) Also, your patients can start therapy right away, because with Triva there's no need to worry about contraindications associated with causative organisms.

Triva® Douche Powder

Oxyquinoline Sulfate 2.0%, Alkyl Aryl Sulfonate 35.0%, Sodium Sulfate 52.5%, Disodium EDTA .33%.

Combines flushing douche action with the chemical action of its formula. For treatment of Trichomonas infestation, Triva Douche Powder may be used adjunctively with oral therapy for fast symptomatic relief.

Rx Triva® Jel

Per 5 grams: oxyquinoline benzoate 7.5 mg; alkyl aryl sulfonate 62.5 mg.; disodium edetate 2.5 mg.; aminacrine HCl 10 mg; copper sulfate .063 mg.; sodium sulfate 6.9 mg.

Provides the effective therapeutic action of Triva with the continuous action of the jel form, to quickly arrest infection and aid in relief of symptoms.

Rx Triva® Combination

Combines therapeutic Douche Powder and Triva Jel with a handy applicator in a convenient, complete treatment kit. Triva Combination effectively treats all three types of vaginitis, including stubborn cases where Monilia and Trichomonas occur together. Effectiveness of Triva Combination has been demonstrated by clinical testing involving the use of Papanicolaou smear and Sabouraud culture to confirm diagnosis and cure.

Precaution
If irritation occurs at the onset of treatment with Jel, treatment may be postponed for a day or two and preliminary treatment with ½ strength Triva Douche used. Regular treatment should then be resumed.

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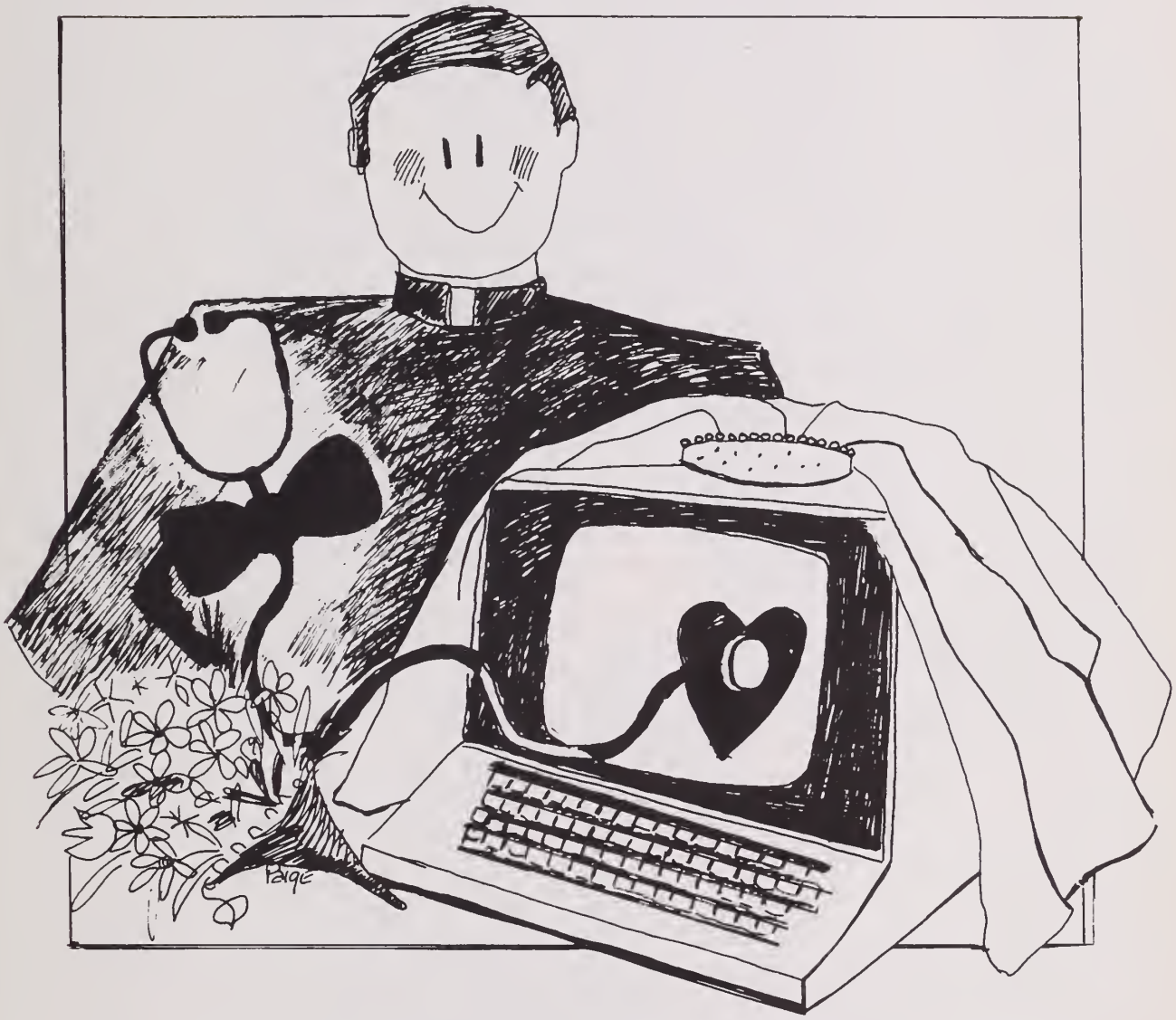
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An added complication... in the treatment of bacterial bronchitis*



Some ampicillin-resistant strains of Haemophilus influenzae—a recognized complication of bacterial bronchitis*—are sensitive to treatment with Ceclor.[1-6]

In clinical trials, patients with bacterial bronchitis due to susceptible strains of Streptococcus pneumoniae, H. influenzae, S. pyogenes (group A beta-hemolytic streptococci), or multiple organisms achieved a satisfactory clinical response with Ceclor.[7]

Ceclor®
cefaclor
Pulvules®, 250 and 500 mg

Brief Summary.
Consult the package literature for prescribing information.

Indications and Usage: Ceclor® (cefaclor, Lilly) is indicated in the treatment of the following infections when caused by susceptible strains of the designated microorganisms:

Lower respiratory infections, including pneumonia caused by *Streptococcus pneumoniae (Diplococcus pneumoniae), Haemophilus influenzae,* and *S. pyogenes* (group A beta-hemolytic streptococci).

Appropriate culture and susceptibility studies should be performed to determine susceptibility of the causative organism to Ceclor.

Contraindication: Ceclor is contraindicated in patients with known allergy to the cephalosporin group of antibiotics.

Warnings: IN PENICILLIN-SENSITIVE PATIENTS, CEPHALOSPORIN ANTIBIOTICS SHOULD BE ADMINISTERED CAUTIOUSLY. THERE IS CLINICAL AND LABORATORY EVIDENCE OF PARTIAL CROSS-ALLERGENICITY OF THE PENICILLINS AND THE CEPHALOSPORINS, AND THERE ARE INSTANCES IN WHICH PATIENTS HAVE HAD REACTIONS, INCLUDING ANAPHYLAXIS, TO BOTH DRUG CLASSES.

Antibiotics, including Ceclor, should be administered cautiously to any patient who has demonstrated some form of allergy, particularly to drugs.

Precautions: If an allergic reaction to cefaclor occurs, the drug should be discontinued, and, if necessary, the patient should be treated with appropriate agents, e.g., pressor amines, antihistamines, or corticosteroids.

Prolonged use of cefaclor may result in the overgrowth of nonsusceptible organisms. Careful observation of the patient is essential. If superinfection occurs during therapy, appropriate measures should be taken.

Positive direct Coombs tests have been reported during treatment with the cephalosporin antibiotics. In hematologic studies or in transfusion cross-matching procedures when antiglobulin tests are performed on the minor side or in Coomb testing of newborns whose mothers have received cephalosporin antibiotics before parturition, it should be recognized that a positive Coombs test may be due to the drug.

Ceclor should be administered with caution in the presence of markedly impaired renal function. Under such a condition, careful clinical observation and laboratory studies should be made because safe dosage may be lower than that usually recommended.

As a result of administration of Ceclor, a false-positive reaction for glucose in the urine may occur. This has been observed with Benedict's and Fehling's solutions and also with Clinitest® tablets but not with Tes-Tape® (Glucose Enzymatic Test Strip, USP, Lilly).

Usage in Pregnancy—Although no teratogenic or antifertility effects were seen in reproduction studies in mice and rats receiving up to 12 times the maximum human dose or in ferrets given three times the maximum human dose, the safety of this drug for use in human pregnancy has not been established. The benefits of the drug in pregnant women should be weighed against a possible risk to the fetus.

Usage in Infancy—Safety of this product for use in infants less than one month of age has not been established.

Adverse Reactions: Adverse effects considered related to cefaclor therapy are uncommon and are listed below.

Gastrointestinal symptoms occur in about 2.5 percent of patients and include diarrhea (1 in 70) and nausea and vomiting (1 in 90).

As with other broad-spectrum antibiotics, colitis, including rare instances of pseudomembranous colitis, has been reported in conjunction with therapy with Ceclor.

Hypersensitivity reactions have been reported in about 1.5 percent of patients and include morbilliform eruptions (1 in 100). Pruritus, urticaria, and positive Coombs tests each occur in less than 1 in 200 patients. Cases of serum-sickness-like reactions (erythema multiforme or the above skin manifestations accompanied by arthritis/arthralgia and, frequently, fever) have been reported. These reactions are apparently due to hypersensitivity and have usually occurred during or following a second course of therapy with Ceclor® (cefaclor). Such reactions have been reported more frequently in children than in adults. Signs and symptoms usually occur a few days after initiation of therapy and subside within a few days after cessation of therapy. No serious sequelae have been reported. Antihistamines and corticosteroids appear to enhance resolution of the syndrome.

Cases of anaphylaxis have been reported, half of which have occurred in patients with a history of penicillin allergy.

Other effects considered related to therapy included eosinophilia (1 in 50 patients) and genital pruritus or vaginitis (less than 1 in 100 patients).

Causal Relationship Uncertain—Transitory abnormalities in clinical laboratory test results have been reported. Although they were of uncertain etiology, they are listed below to serve as alerting information for the physician.

Hepatic—Slight elevations in SGOT, SGPT, or alkaline phosphatase values (1 in 40).

Hematopoietic—Transient fluctuations in leukocyte count, predominantly lymphocytosis occurring in infants and young children (1 in 40).

Renal—Slight elevations in BUN or serum creatinine (less than 1 in 500) or abnormal urinalysis (less than 1 in 200). [100281R]

*Many authorities attribute acute infectious exacerbation of chronic bronchitis to either *S. pneumoniae* or *H. influenzae*.[8]

Note: Ceclor is contraindicated in patients with known allergy to the cephalosporins and should be given cautiously to penicillin-allergic patients.

Penicillin is the usual drug of choice in the treatment and prevention of streptococcal infections, including the prophylaxis of rheumatic fever. See prescribing information.

References

1. Antimicrob. Agents Chemother., *8*:91, 1975.
2. Antimicrob. Agents Chemother., *11*:470, 1977.
3. Antimicrob. Agents Chemother., *13*:584, 1978.
4. Antimicrob. Agents Chemother., *12*:490, 1977.
5. Current Chemotherapy (edited by W. Siegenthaler and R. Luthy), II:880. Washington, D.C., American Society for Microbiology, 1978.
6. Antimicrob. Agents Chemother., *13*:861, 1978.
7. Data on file, Eli Lilly and Company.
8. Principles and Practice of Infectious Diseases (edited by G.L. Mandell, R.G. Douglas, Jr., and J.E. Bennett), p. 487. New York, John Wiley & Sons, 1979.

Additional information available to the profession on request from Eli Lilly and Company, Indianapolis, Indiana 46285.

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Contemporary Hypnotic Therapy '82

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The Physician's Sleep Glossary

Some common sleep laboratory terms

poly•som•no•graph. An instrument which simultaneously records by electrodes physiological variables during sleep—for example, brain activity (EEG), eye movements (EOG), muscle tonus (EMG) and other electrophysiological variables. These readings indicate precisely when patients fall asleep, how many wake periods they experience, the quality of sleep and the duration of sleep.

sleep la•ten•cy. The period of time measured from "lights out," or bedtime, to the commencement or onset of sleep.

wake time af•ter sleep on•set. Intervals of time spent awake between onset of sleep and the end of the sleep period. The polysomnograph registers the length and frequency of the intervals.

to•tal sleep time. The amount of time actually spent in sleeping. This is estimated by subtracting wake times from the period encompassed by the onset and the termination of sleep.[1]

REM/NREM. 1. REM, or rapid eye movement, sleep is "active"—characterized by increased metabolic rates, elevated temperature and arousal-type EEG patterns. 2. NREM, or non-rapid eye movement, sleep represents "quiet" sleep stages. There are four distinct stages of NREM sleep.[2]

re•bound in•som•nia. A statistically significant worsening of sleep compared to baseline on the nights immediately following discontinuation of sleep medication.[3]

References: 1. Williams RL, Karacan I: Introduction, chap. 1, in *Sleep Disorders: Diagnosis and Treatment*, edited by Williams RL, Karacan I, Frazier SH. New York, John Wiley & Sons, 1978, p. 2. **2.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **3.** Kales A *et al: JAMA 241*:1692-1695, Apr 20, 1979. **4.** Kales A *et al: J Clin Pharmacol 17*:207-213, Apr 1977 and data on file, Hoffmann-La Roche Inc., Nutley, NJ. **5.** Kales A: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **6.** Kales A *et al: Clin Pharmacol Ther 19*:576-583, May 1976. **7.** Kales A, Scharf MB, Kales JD: *Science 201*:1039-1041, Sep 15, 1978. **8.** Frost JD Jr, DeLucchi MR: *J Am Geriatr Soc 27*:541-546, Dec 1979. **9.** Dement WC *et al: Behav Med 5*(10):25-31, Oct 1978. **10.** Vogel GW: Data on file, Hoffmann-La Roche Inc., Nutley, NJ. **11.** Karacan I, Williams RL, Smith JR: The sleep laboratory in the investigation of sleep and sleep disturbances. Scientific exhibit at the 124th annual meeting of the American Psychiatric Association, Washington, DC, May 3-7, 1971. **12.** Pollak CP, McGregor PA, Weitzman ED: The effects of flurazepam on daytime sleep after acute sleep-wake cycle reversal. Presented at the 15th annual meeting of the Association for Psychophysiological Study of Sleep, Edinburgh, Scotland, June 30-July 4, 1975. **13.** Zimmerman AM: *Curr Ther Res 13*:18-22, Jan 1971. **14.** Kales A, Kales JD: *Pharmacol Physicians 4*(9):1-6, Sep 1970. **15.** Data on file, Hoffmann-La Roche Inc., Nutley, NJ.

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Please see summary of product information on following page.

Dalmane® (IV)
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15-mg/30-mg capsules

Dalmane® Ⓝ
(flurazepam HCl/Roche)

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Effective in all types of insomnia characterized by difficulty in falling asleep, frequent nocturnal awakenings and/or early morning awakening; in patients with recurring insomnia or poor sleeping habits; in acute or chronic medical situations requiring restful sleep. Objective sleep laboratory data have shown effectiveness for at least 28 consecutive nights of administration. Since insomnia is often transient and intermittent, prolonged administration is generally not necessary or recommended. Repeated therapy should only be undertaken with appropriate patient evaluation.

Contraindications: Known hypersensitivity to flurazepam HCl; pregnancy. Benzodiazepines may cause fetal damage when administered during pregnancy. Several studies suggest an increased risk of congenital malformations associated with benzodiazepine use during the first trimester. Warn patients of the potential risks to the fetus should the possibility of becoming pregnant exist while receiving flurazepam. Instruct patient to discontinue drug prior to becoming pregnant. Consider the possibility of pregnancy prior to instituting therapy.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. An additive effect may occur if alcohol is consumed the day following use for nighttime sedation. This potential may exist for several days following discontinuation. Caution against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Potential impairment of performance of such activities may occur the day following ingestion. Not recommended for use in persons under 15 years of age. Though physical and psychological dependence have not been reported on recommended doses, abrupt discontinuation should be avoided with gradual tapering of dosage for those patients on medication for a prolonged period of time. Use caution in administering to addiction-prone individuals or those who might increase dosage.

Precautions: In elderly and debilitated patients, it is recommended that the dosage be limited to 15 mg to reduce risk of oversedation, dizziness, confusion and/or ataxia. Consider potential additive effects with other hypnotics or CNS depressants. Employ usual precautions in severely depressed patients, or in those with latent depression or suicidal tendencies, or in those with impaired renal or hepatic function.

Adverse Reactions: Dizziness, drowsiness, lightheadedness, staggering, ataxia and falling have occurred, particularly in elderly or debilitated patients. Severe sedation, lethargy, disorientation and coma, probably indicative of drug intolerance or overdosage, have been reported. Also reported: headache, heartburn, upset stomach, nausea, vomiting, diarrhea, constipation, GI pain, nervousness, talkativeness, apprehension, irritability, weakness, palpitations, chest pains, body and joint pains and GU complaints. There have also been rare occurrences of leukopenia, granulocytopenia, sweating, flushes, difficulty in focusing, blurred vision, burning eyes, faintness, hypotension, shortness of breath, pruritus, skin rash, dry mouth, bitter taste, excessive salivation, anorexia, euphoria, depression, slurred speech, confusion, restlessness, hallucinations, and elevated SGOT, SGPT, total and direct bilirubins, and alkaline phosphatase; and paradoxical reactions, *e.g.*, excitement, stimulation and hyperactivity.

Dosage: Individualize for maximum beneficial effect. *Adults:* 30 mg usual dosage; 15 mg may suffice in some patients. *Elderly or debilitated patients:* 15 mg recommended initially until response is determined.

Supplied: Capsules containing 15 mg or 30 mg flurazepam HCl.

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VA Study[1]

- 450 patients studied
- Mild to moderate hypertensives
- Comparison of propranolol and reserpine for Step-2 antihypertensive therapy
- **Conclusion:** when added to a thiazide diuretic, reserpine was effective in a larger percentage of patients (88%) than was propranolol (81%)!

HDFP Study[2]

- More than 10,000 patients studied
- Conducted at 14 centers over 5 years
- Proved that compliance with Step Care lowers death rate from all cardiovascular causes
- **Conclusion:** reserpine-thiazide regimens were *preferred* for Step-2 therapy, and were deemed effective, without significant adverse effects!

MRFIT Study[3]

- 6-year, 12,000-patient study, to be completed in 1982
- Assesses factors that may increase risk of cardiovascular disease
- Preferred Step-2 regimen: reserpine-thiazide
- **Full year's data:** reserpine is causing less depression than methyldopa, diuretics, or placebo!

That's why the combination in

Salutensin®

(hydroflumethiazide 50 mg/ reserpine 0.125 mg)

Is the preferred Step-2 regimen

Please see references and brief summary of prescribing information on adjacent page.

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Salutensin®
(hydroflumethiazide 50 mg/reserpine 0.125 mg)
Salutensin-Demi™
(hydroflumethiazide 25 mg/reserpine 0.125 mg)
Brief Summary of Prescribing Information (12) 10/27/78
For complete information consult Official Package Circular

WARNING

This fixed combination drug is not indicated for initial therapy of hypertension. Hypertension requires therapy titrated to the individual patient. If the fixed combination represents the dosage so determined, its use may be more convenient in patient management. The treatment of hypertension is not static, but must be reevaluated as conditions in each patient warrant

CONTRAINDICATIONS

Anuria, oliguria, active peptic ulceration, ulcerative colitis, severe depression or hypersensitivity to its components contraindicates the use of Salutensin.

WARNINGS

Small-bowel lesions (obstruction, hemorrhage, perforation and death) have occurred during therapy with enteric-coated formulations containing potassium, with or without thiazides. Such potassium formulations should be used with Salutensin only when indicated and should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occurs. Use cautiously, and only when deemed essential, in fertile, pregnant or lactating patients.

Use in Pregnancy—Thiazides cross the placenta and can cause fetal or neonatal hyperbilirubinemia, thrombocytopenia, altered carbohydrate metabolism and possibly electrolyte disturbances. Fatal reactions may occur with reserpine during electroshock therapy; discontinue Salutensin 2 weeks before such therapy. Increased respiratory secretions, nasal congestion, cyanosis and anorexia may occur in infants born to reserpine-treated mothers.

PRECAUTIONS

Azotemia, hypochloremia, hyponatremia, hypochloremic alkalosis and hypokalemia (especially with hepatic cirrhosis and corticosteroid therapy) may occur, particularly with pre-existing vomiting and diarrhea. Potassium loss may cause digitalis intoxication. *Potassium loss responds to potassium-rich foods, potassium chloride or, if necessary, discontinuation of therapy.* Serum ammonia elevation may precipitate coma in precomatose hepatic cirrhotics. Discontinue therapy 2 weeks before surgery or if myocardial irritability, progressive azotemia or severe depression occur. Exercise caution in patients with chronic uremia, angina pectoris, coronary thrombosis or extensive cerebral vascular disease or bronchial asthma and in those with a history of peptic ulceration or bronchial asthma; in post-sympathectomy patients; in patients on quinidine; and in patients with gallstones, in whom biliary colic may occur. Patients who have diabetes mellitus or who are suspected of being prediabetic should be kept under close observation if treated with this agent.

ADVERSE REACTIONS

Hydroflumethiazide—Skin-rashes (including exfoliative dermatitis), skin photosensitivity, urticaria, necrotizing angiitis, xanthopsia, granulocytopenia, aplastic anemia, orthostatic hypotension (potentiated with alcohol, barbiturates or narcotics), allergic glomerulonephritis, acute pancreatitis, liver involvement (intrahepatic cholestatic jaundice), purpura plus or minus thrombocytopenia, hyperuricemia, hyperglycemia, glycosuria, malaise, weakness, dizziness, fatigue, paresthesias, muscle cramps, skin rash, epigastric distress, vomiting, diarrhea and constipation.

Reserpine—Depression, peptic ulceration, diarrhea, Parkinsonism, nasal stuffiness, dryness of the mouth, weight gain, impotence or decreased libido, conjunctival injection, dull sensorium, deafness, glaucoma, uveitis, optic atrophy, and, with overdosage, agitation, insomnia and nightmares.

USUAL DOSE

The usual adult dose of Salutensin is one tablet once or twice daily. If a smaller amount of thiazide diuretic is desired, Salutensin-Demi, one tablet once or twice daily can be given.

SUPPLIED

Bottles of 10 and 1000 scored tablets.

REFERENCES

1. Propranolol in the treatment of essential hypertension. Veterans Administration Cooperative Study Group on Antihypertensive Agents. *JAMA* 237:2303-2310, 1977.
2. Five-year findings of the hypertension detection and follow-up program: I. Reduction in mortality of persons with high blood pressure, including mild hypertension. Hypertension Detection and Follow-up Program Cooperative Group. *JAMA* 242:2562-2571, 1979.
3. Moser M, Kaplan NM, Sullivan JM, Paul O, in discussion: Perspectives on MRFIT: Can the interim data be applied to your practice...? An Interim Report on the Ongoing Multiple Risk Factor Intervention Trial: MRFIT. *New Perspectives on Hypertension* 2(1):10-19, February 1981.

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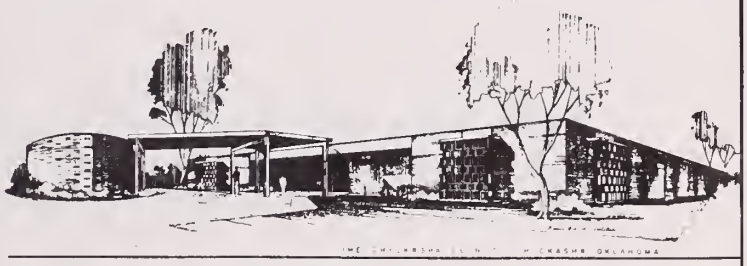
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NEWS

Members of the Oklahoma State Medical Association, the constituent societies of the association, and all readers in general are invited to supply news items of general interest to the profession.

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All advertising copy must be approved by the Editorial Board before acceptance for publication. General and miscellaneous advertising rates will be sent on request.

EDITING SERVICE

The Editorial Board reserves the prerogative to submit contributions to a Medical Editing Service when warranted. If such is felt necessary, the Editor will contact the author for approval, informing him that there will be a modest charge for this service.

REPRINTS

Authors will receive reprint order forms from the Transcript Press, P.O. Drawer 1058, Norman, Oklahoma 73070, prior to final publication of their articles. Other requests for reprints must be made to the Transcript Press within 30 days after publication.

BACK ISSUES

Microfilm copies of back issues of *The Journal* may now be purchased from University Microfilms International, 300 North Zeeb Road, Ann Arbor, Michigan 48106.

The dentists outscored the physicians in this year's MD-DDS Tennis Tournament held in March at the Summerfield Racquet Club in Oklahoma City. The 19-11 victory brought the tournament record to two wins for the dentists versus five wins for the physicians. Chairmen for the event were Chester W. Beam, MD, and J. Don Harris, DDS.

Tulsa's Saint Francis Hospital, radio station KRMG, and the Oklahoma News Network are bringing health information to the public each weekday on "Healthline." The community service announcements presented on the radio program are 90 seconds in length and feature Saint Francis physicians being interviewed on a variety of health-related topics. The spots are produced by Gloria O'Connell, special projects coordinator for the hospital's Public Information Department.

The Korean Medical Association of America will hold its 1982 scientific meeting June 28-30 at the Lotte Hotel in Seoul, Korea. The meeting will be co-sponsored by the Korean Medical Association. A special celebration is planned to celebrate the centennial of the rapproachement between the United States government and the Korean government. For meeting information contact Suk S. Lee, MD, Department of Radiology, Our Lady of Mercy Hospital, Dyer, IN 46311, (219) 322-8930.

The American Medical Association has scheduled a series of "Gearing Up for Retirement" workshops to be conducted at AMA headquarters during 1982. The one-day workshops offer guidance in business, financial, psychological, and vocational aspects of winding down a medical practice. Fees are $100 for AMA members through August, and $125 thereafter. Fees for nonmembers are $150. Course workbooks are included. Workshop dates are June 11, July 23, August 20, September 17, October 15, November 19, December 3, and December 4. Hotel reservations may be made at reduced rates. For more information contact the Department of Practice Management, AMA headquarters, at (312) 751-6381.

The Junior League of Oklahoma City has published a booklet designed to make parents aware of the need for early detection of problems in their children. Titled "A Winning Start — When You Care for Children," the booklet discusses normal development of children, warning signs that may indicate problems, and how to get help from professionals and public agencies that specialize in children's services. Copies of the publication may be obtained by calling the Junior League Headquarters at (405) 843-5668.

An international assemblage of physicians and medical educators is expected for the World Medical Association (WMA) Continuing Medical Education Meeting in Honolulu, Hawaii, October 11-14, 1982. The meeting, to be held in conjunction with the annual scientific meeting of the Hawaii Medical Association (HMA), offers a total of 19 hours of Category 1 CME credit. The WMA registration fee is $50. WMA registrants may attend HMA continuing medical education sessions free of charge. For more information, contact World Medical Association, North American Region, 536 N. State St., Chicago, IL 60610, (312) 751-6230.

The Sixth National Conference on Medical Care and Health Services in Correctional Institutions will be held October 7-9, 1982, in Chicago. The conference, which is funded by the Robert Wood Johnson Foundation, is the only national meeting devoted to inmate health care. For information on registration and a call for papers, write Sixth National Conference, American Health Care Consultants, 333 E. Ontario St., 2902B, Chicago, IL 60611. □

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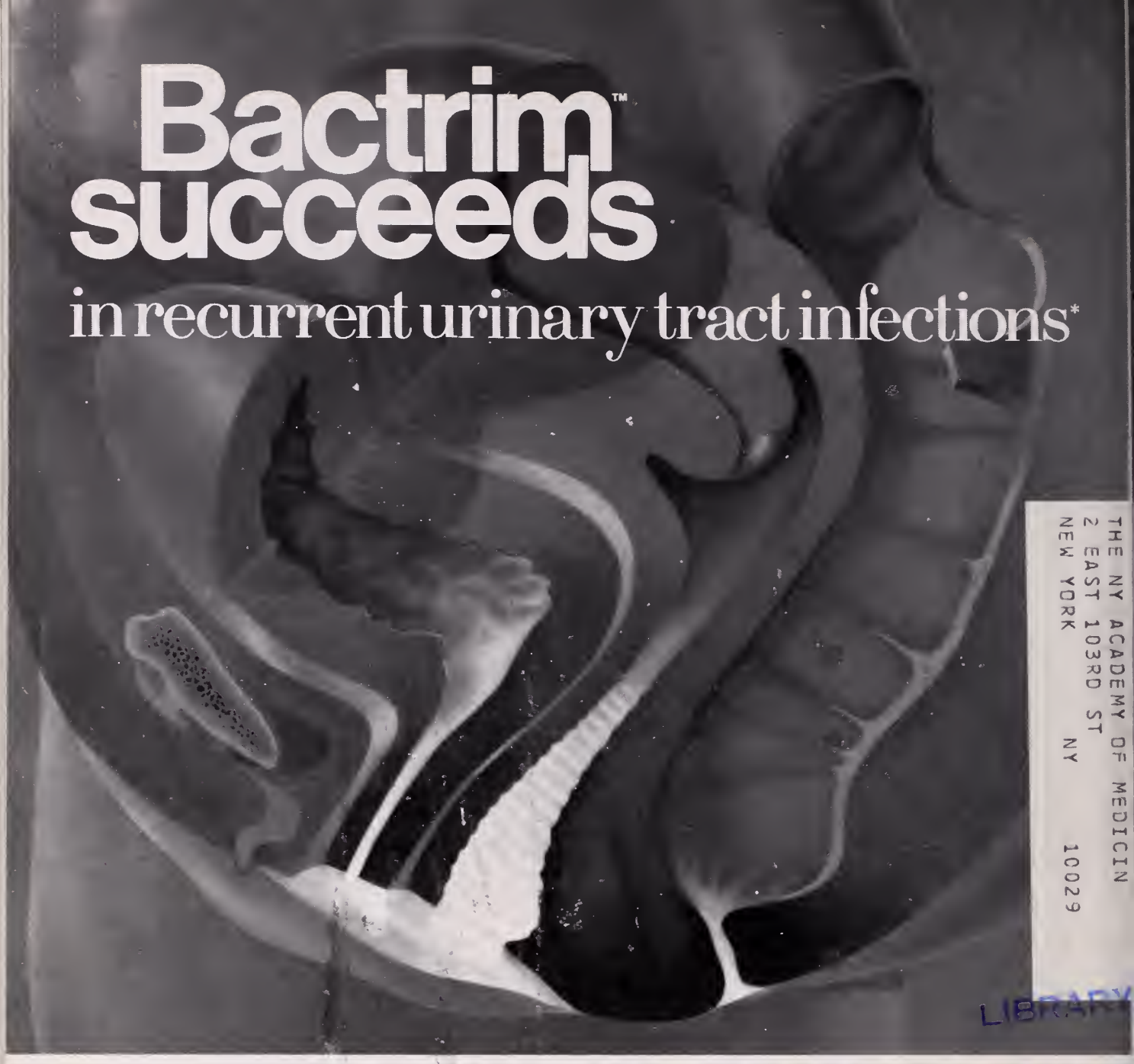
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1. Rubin RH, Swartz MN: *N Engl J Med 303* 426-432, Aug 21, 1980 2. Data on file, Medical Department, Hoffmann-La Roche Inc.

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